



**Greenhouse Gas Analysis for the
Del Mar City Hall/Town Hall
Project,
Del Mar, California**

Prepared for
City of Del Mar
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Executive Summary

The proposed Del Mar City Hall/Town Hall project (proposed project) is proposed to be located on the existing City administration property. The project site is approximately 1.5 acres and is located between 10th and 11th streets, west of Camino del Mar, in the City of Del Mar. The proposed project would replace the City of Del Mar (City) administration offices, parking lots, City Council hearing room, and the Del Mar television (TV) studios currently located on the property with new offices, meeting spaces, a hearing room, outdoor spaces, and parking for up to 160 vehicles, as well as future expansion areas for up to 20,000 square feet of development consistent with the Public Facilities Zoning.

Additionally, the proposed project includes the temporary relocation of the City administrative operations that currently exist on-site, including the Town Hall public functions and City Council and other committee hearings, to the Shores Park lower parking area in portable structures. The occupancy of the temporary relocation site is anticipated to be approximately 30 months, which includes the preparation of the site with improved driveway access and utilities (water, sewer, telecommunications, and electricity); placement of portable structures for temporary use and operation; and removal of proposed project facilities.

This report evaluates the potential impacts from greenhouse gas (GHG) emissions associated with all components of the proposed project.

In accordance with California Environmental Quality Act and City guidance, this analysis evaluates the significance of the project in terms of (1) its contribution of GHGs to cumulative statewide emissions, and (2) its consistency with local and state regulations, plans, and policies aimed at reducing GHG emissions. Under the first threshold, projects are evaluated first against a screening level threshold of 900 tons of carbon dioxide equivalent (MTCO₂E). Projects that would surpass the 900 MTCO₂E screening threshold require a detailed GHG analysis, which would include a business as usual (BAU) analysis with a 2005 base year and a GHG reduction measure analysis to demonstrate that the regulation and project design features will achieve a 28.3 percent emissions reduction relative to the BAU analysis.

As detailed in this analysis, the construction and operation of the proposed project would generate 544 MTCO₂E annually. However, the existing facilities are estimated to generate 271 MTCO₂E annually. As the proposed project would replace the existing uses, the net increase in GHG emissions would be 273 MTCO₂E annually. Therefore, whether considering the existing land uses emissions or not, the proposed project would emit less than the 900 MTCO₂E screening criterion. Thus, no additional detailed analysis is required and impacts associated with GHG emissions of the proposed project would be less than significant.

Emission reduction measures included in the proposed project design include installing Energy Star appliances, increasing waste reduction consistent with CalRecycle goals, achieving a Tier 1 CalGreen goal, and reducing water consumption by 20 percent in accordance with CalGreen, as well as building and construction techniques consistent with Title 24 and City solar development goals. Furthermore, the proposed project would be consistent with the goals and strategies of local and state plans, policies, and regulations aimed at reducing GHG emissions from land use and development. Therefore, impacts from GHG emissions would be less than significant.

1.0 Introduction

This report evaluates the significance of the proposed Del Mar City Hall/Town Hall project (proposed project) and its contribution of greenhouse gas (GHG) emissions to statewide GHG emissions and GHG reduction targets. To evaluate the incremental effect of the proposed project development on statewide emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change issue.

1.1 Understanding Global Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include: volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles).

However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone. With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. These events have led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in the earth's atmosphere. Because recently observed increased concentrations of GHGs in the atmosphere are related to increased emissions resulting from human activity, the current cycle of "global warming" is generally believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is the collective of human actions taking place throughout the world that contributes to climate change, it is quintessentially a cumulative issue.

1.2 Greenhouse Gases of Primary Concern

The atmospheric lifetime of the GHG is the average time the molecule stays stable in the atmosphere. There are numerous GHGs, both naturally occurring and artificial. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. The potential of a gas to trap heat and warm the atmosphere is measured by its global warming potential (GWP). Specifically, GWP is defined as the cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas (Intergovernmental Panel on Climate Change [IPCC] 2007). The reference gas for establishing GWP is carbon dioxide (CO₂), which has a

GWP of 1. While methane (CH₄) has a shorter atmospheric lifetime than carbon dioxide, it has a 100-year GWP of 21, which means that it has a 21 times greater global warming effect than carbon dioxide on a molecule-by-molecule basis. Table 1 summarizes some of the most common GHGs, the atmospheric lifetime, and GWP.

| Gas | Atmospheric Lifetime | 100-year GWP | 20-year GWP | 500-year GWP |
|---|----------------------|--------------|-------------|--------------|
| Carbon dioxide (CO ₂) | 50–200 | 1 | 1 | 1 |
| Methane (CH ₄) ¹ | 12 | 25 | 72 | 7.6 |
| Nitrous oxide (N ₂ O) | 114 | 298 | 289 | 153 |
| HFC-23 | 270 | 14,800 | 12,000 | 12,200 |
| HFC-32 | 4.9 | 675 | 2,330 | 205 |
| HFC-125 | 29 | 3,500 | 6,350 | 1,100 |
| HFC-134a | 14 | 1,430 | 3,830 | 435 |
| HFC-143a | 52 | 4,470 | 5,890 | 1,590 |
| HFC-152a | 1.4 | 124 | 437 | 38 |
| HFC-227ea | 34.2 | 3,220 | 5,310 | 1,040 |
| HFC-236fa | 240 | 9,810 | 8,100 | 7,660 |
| HFC-43-10mee | 15.9 | 1,640 | 4,140 | 500 |
| CF ₄ | 50,000 | 7,390 | 5,210 | 11,200 |
| C ₂ F ₆ | 10,000 | 12,200 | 8,630 | 18,200 |
| C ₃ F ₈ | 2,600 | 8,830 | 6,310 | 12,500 |
| C ₄ F ₁₀ | 2,600 | 8,860 | 6,330 | 12,500 |
| c-C ₄ F ₈ | 3,200 | 10,300 | 7,310 | 14,700 |
| C ₅ F ₁₂ | 4,100 | 9,160 | 6,510 | 13,300 |
| C ₆ F ₁₄ | 3,200 | 9,300 | 6,600 | 13,300 |
| SF ₆ | 3,200 | 22,800 | 16,300 | 32,600 |

SOURCE: IPCC 2007.
¹The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

Of the gases listed in Table 1 carbon dioxide, methane, and nitrous oxide are produced by both biogenic (natural) and anthropogenic (human) sources. These gases are the GHGs of primary concern in this analysis. The remaining gases occur solely as the result of human processes. Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals used as substitutes for ozone-depleting chlorofluorocarbons used in air conditioners and as refrigerants. Perfluorocarbons (PFCs) such as tetrafluoromethane (CF₄) are used primarily in aluminum production and semiconductor manufacture. Sulfur hexafluoride (SF₆) is used for insulation in electric power transmission and distribution equipment. As the project would not include any of these sources or activities, HFCs, PFCs/CFs, and SF₆ are not of primary concern to the proposed project.

2.0 Project Description

The proposed project is located on approximately 1.5 acres between 10th and 11th streets, west of Camino del Mar, in the City of Del Mar (City). The proposed project would replace the City administration offices, parking lots, City Council hearing room, and the Del Mar television (TV) studios currently located on the property with new offices, meeting spaces, hearing room, outdoor spaces, and parking for up to 160 vehicles, as well as future expansion areas for up to 20,000 square feet of development consistent with the Public Facilities Zoning.

During the construction period, the City administrative operations that currently exist on-site, including the Town Hall public functions and City Council and other committee hearings, would be relocated to the Shores Park parking area in portable structures. The occupancy of the temporary relocation site is anticipated to be approximately 30 months, which includes the preparation of the site with improved driveway access, new western perimeter wood fencing, and utilities (water, sewer, telecommunications, and electricity); temporary use and operation; and removal of proposed project facilities. While grading and paving for improved two-way driveway access at the southwestern corner of the property and construction of a western perimeter wood fence for noise and lighting attenuation are proposed, no additional site preparation or grading would be required for the placement of these temporary structures. Upon completion of the proposed project, all structures and temporary uses related to this project would be removed or relocated back to the project site.

Figure 1 shows the regional location of the proposed project; Figure 2 shows an aerial photograph of the project vicinity with existing uses on-site and location of the temporary relocation site at the Shores Park; and Figure 3 shows the plan for the proposed project, including approximate locations for portable buildings and improved driveway access on the temporary relocation facility.

3.0 Existing Conditions

3.1 Environmental Setting

3.1.1 State and Regional GHG Inventories

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of CO₂ equivalent (MMTCO₂E). Table 2 shows the estimated statewide GHG emissions for the years 1990, 2008, and 2011.

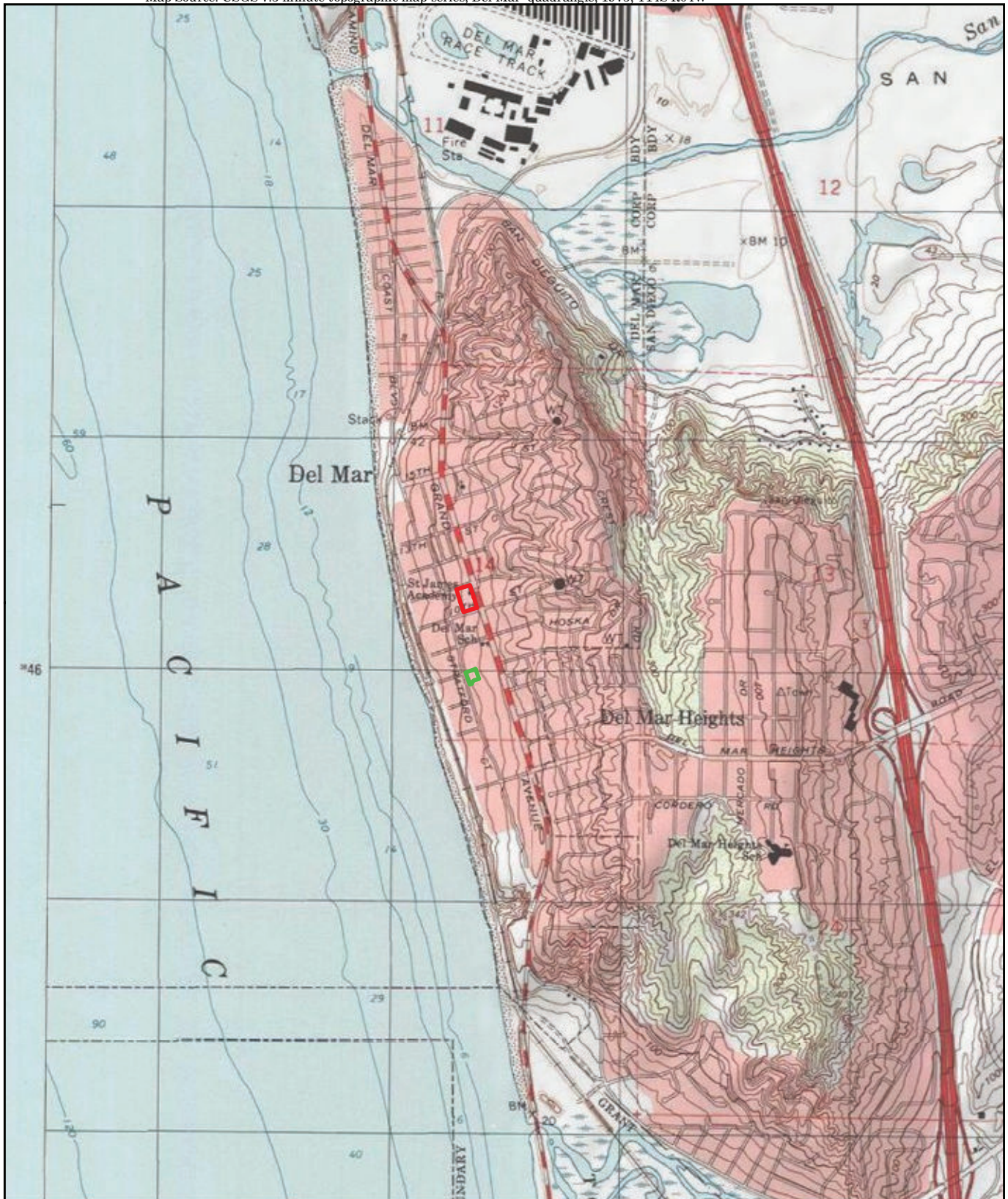




***** Project Location

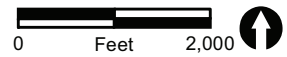
FIGURE 1

Regional Location





-  Project Boundary
-  Temporary Relocation Site



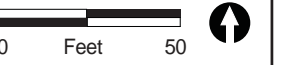


FIGURE 3
Proposed Project

Table 2
California GHG Emissions by Sector in 1990, 2008 and 2011

| Sector | 1990 ¹ Emissions in MMTCO ₂ E (% total) ² | 2008 ² Emissions in MMTCO ₂ E (% total) ² | 2011 Emissions in MMTCO ₂ E (% total) ³ |
|--|---|---|--|
| Sources | | | |
| Agriculture | 23.4 (5%) | 33.68 (7%) | 32.24 (7%) |
| Commercial | 14.4 (3%) | 15.56 (3%) | 15.62 (3%) |
| Electricity Generation | 110.6 (26%) | 120.14 (25%) | 86.57 (19%) |
| High GWP | -- | 11.48 (2%) | 15.17 (3%) |
| Industrial | 103.0 (24%) | 89.27 (18%) | 93.24 (21%) |
| Recycling and Waste | -- | 6.69 (1%) | 7.0 (2%) |
| Residential | 29.7 (7%) | 29.03 (6%) | 29.85 (7%) |
| Transportation | 150.7 (35%) | 177.16 (37%) | 168.42 (38%) |
| Forestry (Net CO ₂ flux) | -6.69 | -- | -- |
| Not Specified | 1.27 | -- | -- |
| TOTAL | 426.4 | 483.22 | 448.11 |
| SOURCE: California Energy Commission 2014; CARB 2007, 2013a. | | | |
| ¹ 1990 data was retrieved from the CARB 2007 source. | | | |
| ² 2008 and 2011 data was retrieved from the CARB 2013a source. | | | |
| ³ Percentages may not total 100 due to rounding. | | | |
| ⁴ Reported emissions for key sectors. The inventory totals for 2008 and 2011 did not include Forestry or Not Specified sources. | | | |

As shown in Table 2, statewide GHG source emissions totaled 426 MMTCO₂E in 1990, 483 MMTCO₂E in 2008, and 448 MMTCO₂E in 2011. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. According to CARB, most of the reductions since 2008 have been driven by economic factors (recession), previous energy-efficiency actions, and the renewable portfolio standard (CARB 2013a). Transportation-related emissions consistently contribute to GHG emissions the most, followed by electricity generation and industrial emissions.

The forestry sector is unique because it not only includes emissions associated with harvest, fire, and land use conversion (sources), but also includes removals of atmospheric CO₂ (sinks) by photosynthesis, which is then bound (sequestered) in plant tissues.

A San Diego regional emissions inventory was prepared by the University of San Diego Energy Policy Initiative Center (EPIC) in 2010. The EPIC 2010 emissions inventory for the San Diego region is duplicated in Table 3. The sectors included in this inventory are somewhat different from those in the statewide inventory, which is based on the 2008 *Scoping Plan* categories.

Similar to the statewide emissions, transportation-related GHG emissions contributed the most regionwide, followed by emissions associated with energy use.

| Table 3 San Diego County GHG Emissions by Sector in 2010 | | |
|---|--|--------|
| Sector | 2010 Emissions in MMTCO ₂ E (% total) ¹ | |
| Agriculture/Forestry/Land Use | 0.05 | 0.2% |
| Waste | 0.6 | 1.8% |
| Electricity | 8.3 | 25.0% |
| Natural Gas Consumption | 2.9 | 8.7% |
| Industrial Processes & Products | 1.8 | 5.4% |
| On-road Transportation | 14.4 | 43.4% |
| Off-road Equipment & Vehicles | 1.4 | 4.2% |
| Civil Aviation | 1.9 | 5.7% |
| Rail | 0.32 | 1.0% |
| Water-Borne Navigation | 0.1 | 0.3% |
| Other Fuels/Other | 1.58 | 4.8% |
| Land Use Wildfires | 0.28 | 0.8% |
| Development (Loss of Vegetation) | 0.18 | 0.5% |
| Sequestration from Land Cover | (0.66) | (0.5%) |
| TOTAL | 33.15 | |
| SOURCE: University of San Diego EPIC 2013. | | |
| ¹ Percentages may not total 100 due to rounding. | | |

3.1.2 Del Mar GHG Inventories

In March 2011, Del Mar worked with the International Council for Local Environmental Initiatives (ICLEI) to develop a government operations and community-wide GHG emissions inventory, which was accepted by the City Council in April 2011. These inventories are meant to establish the City’s baseline GHG emissions and would be utilized in developing and then implementing a Climate Action Plan (CAP) for Del Mar (the CAP is still under development). These inventories use the protocol developed by CARB in conjunction with ICLEI, the California Climate Action Registry, and The Climate Registry for conducting both a community-wide inventory and government operations inventory. The community-wide GHG emissions inventory for Del Mar is duplicated below in Table 4.

In 2005, the Del Mar community emitted approximately 48,776 metric tons CO₂ equivalent (MTCO₂E; or 0.049 MMTCO₂E). This amount equals roughly 0.14 percent of region-wide GHG emissions and 0.01 percent on state-wide emissions. As shown in Table 4, transportation comprised the largest source of GHG emissions, generating approximately 53 percent of Del Mar’s total 2005 emissions.

Based on the ICLEI government operation inventory, GHG emissions in 2005 from the City’s governmental operations totaled 579 MTCO₂E (ICLEI 2011). Of the total emissions accounted for in this inventory, transportation-related emissions were again the largest, with the City’s vehicle fleet accounting for 26.9 percent, closely followed by employee commute emissions, accounting for 25.2 percent of total government operations emissions.

| Sector | 2005 Emissions in MTCO ₂ E (% total) ¹ | |
|---|---|------|
| Transportation | 25,825 | 53% |
| Residential | 10,279 | 21% |
| Commercial/Industrial | 9,184 | 19% |
| Solid Waste | 3,279 | 6.6% |
| Wastewater | 210 | 0.4% |
| TOTAL | 48,776 | |
| SOURCE: ICLEI 2011 | | |
| ¹ Percentages may not total 100 due to rounding. | | |
| MTCO ₂ E = metric ton CO ₂ equivalent | | |

Under a business-as-usual (BAU) scenario, the City's emissions are projected to grow by approximately 17 percent by year 2020, from 48,776 to 57,285 MTCO₂E (ICLEI 2011). A variety of different reports and projections were used to create this emissions forecast, as detailed in the ICLEI inventory.

3.1.3 On-Site GHG Emission Sources

The project site currently contains the existing City Hall, the Town Hall, other City facilities, and open space. The temporary relocation site at the Shores Park is currently developed as a parking lot and does not contain a measurable source of GHG emissions. Existing on-site GHG emissions are quantified in section 5.1.

3.2 Existing Regulatory Framework

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. A summary of some of the key programs and regulations concerning GHG emissions and climate change is presented below.

3.2.1 Federal

The federal government, U.S. Environmental Protection Agency (EPA), and other federal agencies have many federal level programs and projects to reduce GHG emissions.

3.2.1.1 U.S. Environmental Protection Agency

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the proposed project is Energy Star, a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy-efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which

helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2013, which provides information on exceptional products that represent the leading edge in energy-efficient products in 2013 (U.S. EPA 2013).

The U.S. EPA also partners with the public sector, including states, tribes, localities, and resource managers, to encourage smart growth, sustainability preparation, and renewable energy and climate change preparation. These initiatives include the Clean Energy–Environment State Partnership Program, the Climate Ready Water Utilities Initiative, the Climate Ready Estuaries Program, and the Sustainable Communities Partnership (U.S. EPA 2014).

3.2.1.2 Corporate Average Fuel Economy Standards

The proposed project would generate additional vehicle trips. These vehicles would consume fuel and would result in GHG emissions. The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. While the standards had not changed since 1990, as part of the Energy and Security Act of 2007, the CAFE standards were increased in 2007 for new light-duty vehicles to 35 miles per gallon (mpg) by 2020. In May 2009, plans were announced to further increase CAFE standards to require light-duty vehicles to meet an average fuel economy of 35.5 mpg by 2016. In August 2012, fuel economy standards were further increased to 54.5 mpg for cars and light-duty trucks by Model Year 2025. This will nearly double these vehicles' fuel efficiency compared to new vehicles currently on our roads.

3.2.2 State

The state of California has a number of policies and regulations that are either directly or indirectly related to GHG emissions. Only those most relevant to the proposed project, specifically land use development projects, are included in this discussion.

3.2.2.1 Executive Orders

a. S-3-05—Statewide GHG Emission Targets

This executive order (EO) established the following GHG emission reduction targets for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels;
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the secretary of the California EPA to oversee the efforts made to reach these targets and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first

Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years.

b. B-30-15—2030 Statewide GHG Emission Goal

This EO, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG emitting sources to implement measures designed to achieve the new interim 2030 goal as well as the pre-existing long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed CARB to update its Climate Change *Scoping Plan* to address the 2030 goal. Therefore, in the coming months, CARB is expected to develop statewide inventory projection data for 2030, as well as commence its efforts to identify reduction strategies capable of securing emission reductions that allow for achievement of the EO's new interim goal.

3.2.2.2 Assembly Bill 32—California Global Warming Solutions Act

In response to EO S-3-05, the California legislature passed Assembly Bill 32 (AB 32), the “California Global Warming Solutions Act of 2006,” which was signed by the governor on September 27, 2006. It required the CARB to adopt rules and regulations that would reduce statewide GHG emissions to 1990 levels by 2020. The CARB was also required to publish a list of discrete GHG emission reduction measures.

3.2.2.3 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, CARB adopted in 2008 the *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)*, which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted BAU emissions in 2020 to the state's historic 1990 emissions level.

In 2008, as part of its adoption of the *Scoping Plan*, CARB estimated that annual statewide GHG emissions were 427 MMTCO₂E in 1990 and would reach 596 MMTCO₂E by 2020 under a BAU condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMTCO₂E (or approximately 28.5 percent) reduction in BAU emissions was needed by 2020. This 2020 emissions estimate was developed using pre-recession data and reflects GHG emissions expected to occur in the absence of any reduction measures in 2010.

In 2011, CARB revised its 2020 BAU projections to account for the economic downturn and laws that had taken effect but were not included in the 2008 calculations. With respect to the new economic data alone, CARB determined that the economic downturn reduced the 2020 BAU by 55 million MTCO₂E; as a result, achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent, not 28.5 percent as previously proposed, from the 2020 BAU (CARB 2011a). Further, CARB determined that implementation of Pavley I and the Initial Renewables Portfolio Standard (RPS; as defined below) accounted for reductions of 26 MMCO₂E and 12 MMTCO₂E, respectively; as a result, achieving the 1990 emissions level

by 2020 would require a reduction in GHG emissions of 15.8 percent, again amending the 28.5 percent. Given the refined 2020 forecast of 507 MMTCO₂E per year, CARB determined statewide GHG emissions would need to be reduced by 80 MMTCO₂E (or 15.8 percent of 507 MMTCO₂E) by 2020 in order to reach the 1990 emission levels per AB 32 (CARB 2011b). The updated emissions projections and targets were incorporated into the *Scoping Plan* that was approved in 2011.

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)* (CARB 2014). The stated purpose of the *First Update* is to “highlight California’s success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050” (CARB 2014). The *First Update* found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals (CARB 2014).

In conjunction with the *First Update*, CARB identified “six key focus areas comprising major components of the state’s economy to evaluate and describe the larger transformative actions that will be needed to meet the state’s more expansive emission reduction needs by 2050” (CARB 2014). Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The *First Update* identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction goal.

Based on CARB’s research efforts, it has a “strong sense of the mix of technologies needed to reduce emissions through 2050” (CARB 2014). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, CARB recalculated the state’s 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level and the revised 2020 emissions level projections identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent from the BAU conditions.

The *First Update* also included a strong recommendation from CARB for setting a mid-term statewide GHG emissions reduction target. CARB specifically recommended that the mid-term target be consistent with: (i) the United States’ pledge to reduce emissions 42 percent below 2005 levels (which translates to a 35 percent reduction from 1990 levels in California); and (ii) the long-term policy goal of reducing emissions to 80 percent below 1990 levels by 2050. However, to date, there is no legislative authorization for a post-2020 GHG reduction target, and CARB has not established such a target.

The *First Update* discusses new residential and commercial building energy-efficiency improvements, specifically identifying progress toward zero net energy buildings by 2020 for residential buildings and 2030 for non-residential buildings as an element of meeting mid-term and long-term GHG reduction goals. The *First Update* expresses CARB's commitment to working with the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) to facilitate further achievements in building energy efficiency.

The original 2008 *Scoping Plan* and the 2014 *First Update* represent important milestones in California's efforts to reduce GHG emissions statewide. The law also requires the *Scoping Plan* to be updated every five years. The *Scoping Plan* process, as stated, is also thorough and encourages public input and participation.

3.2.2.4 Transportation-related Emissions Reductions

Transportation accounts for the largest share of the state's GHG emissions. Accordingly, a large share of the reduction of GHG emissions from the recommended measures addresses this sector. CARB's method is a comprehensive, three-prong strategy: reducing GHG emissions from vehicles, reducing the carbon content of the fuel these vehicles burn, and reducing the miles these vehicles travel.

a. California Light-duty Vehicle Greenhouse Gas Standards

AB 1493 enacted July 2002, directed CARB to adopt vehicle standards that lowered GHG emissions from passenger vehicles and light-duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year. CARB adopted these regulations (termed "Pavley I") as a discrete early action measure pursuant to AB 32.

CARB has also adopted a second phase of the Pavley regulations, originally termed "Pavley II" but now called the Low Emission Vehicle III" (LEV III) Standards or Advanced Clean Cars (ACC) Program, that covers model years 2017 to 2025. CARB estimates that LEV III will reduce vehicle GHGs by an additional 4.0 MMTCO₂E for a 2.4 percent reduction over Pavley I. These reductions come from improved vehicle technologies such as smaller engines with superchargers, continuously variable transmissions, and hybrid electric drives. On August 7, 2012, the final regulation for the adoption of LEV III became effective.

It is expected that Pavley I and LEV III regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, while improving fuel efficiency and reducing motorists' costs (CARB 2013b).

b. Low Carbon Fuel Standard

Executive order EO S-01-07, signed in 2007, directed that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through a Low Carbon Fuel Standard (LCFS). CARB adopted the LCFS as a discrete early action measure pursuant to AB 32 in April 2009. The LCFS is a performance standard with flexible compliance mechanisms intended to incentivize the development of a diverse set of clean low-carbon transportation fuel options. Its aim is to accelerate the availability and

diversity of low-carbon fuels such as biofuels, electricity, and hydrogen by taking into consideration the full life cycle of GHG emissions.

In 2013, an ethanol company obtained a court order compelling CARB to remedy substantive and procedural defects under California Environmental Quality Act (CEQA) of the LCFS adoption process. However, the court allowed implementation of the LCFS to continue pending correction of the identified defects. Consequently, this analysis assumes that the LCFS will remain in effect during construction and operation of the proposed project.

c. Regional Emissions Targets – SB 375

Senate Bill (SB) 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the *Scoping Plan*. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of the pertinent MPO's Regional Transportation Plan (RTP).

San Diego Association of Governments (SANDAG) is the San Diego region's MPO. SANDAG completed and adopted its 2050 RTP/SCS in October 2011, the first such RTP in the state that included a SCS. CARB's targets for the SANDAG region call for a 7 percent reduction in GHG emissions per capita from automobiles and light-duty trucks compared to 2005 levels by 2020 and a 13 percent reduction by 2035. The reduction targets are to be updated every eight years, but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets.

As stated by SANDAG, the strategy set forth in the 2050 RTP/SCS is to “focus housing and job growth in the urbanized areas where there is an existing and planned infrastructure, protect sensitive habitat and open space, invest in a network that gives residents and workers transportation options that reduce GHG emissions, promote equity for all, and implement the plan through incentives and collaboration.” In November 2011, CARB – by resolution – accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emission reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. On November 24, 2014, and after recirculation of the Draft Environmental Impact Report (EIR), Division One of the Fourth District Court of Appeal issued its decision in *Cleveland National Forest Foundation v. SANDAG* (Case No. D063288). The majority of the Court of Appeals in the *Cleveland National Forest Foundation* decision found SANDAG's EIR deficient because, although the EIR used three signature thresholds authorized by CEQA Guidelines §15064.4(b), it did not assess the RTP/SCS's consistency with the 2050 GHG emissions goal outlined in EO 5-03-05, which the majority appellate court construed as “state climate policy.” However, the Court of Appeals did not require the set aside of SANDAG's 2050 RTP/SCS itself. In March 2015, the California Supreme Court granted

SANDAG's petition for review of the Fourth District's decision (Case No. S223603), and the matter currently is pending before the state's highest court.

Pursuant to Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

3.2.2.5 Non-transportation-related Emissions Reductions

In the energy sector, *Scoping Plan* measures aim to provide better information and overcome institutional barriers that slow the adoption of cost-effective, energy-efficiency technologies. They include enhanced energy-efficiency programs to provide incentives for customers to purchase and install more efficient products and processes, and building and appliance standards to ensure that manufacturers and builders bring improved products to market. Over the long term, the recommended measures will increase the amount of electricity from renewable energy sources and improve the energy efficiency of industries, homes, and buildings. While energy efficiency accounts for the largest emissions reductions from this sector, other applicable land development measures—such as water conservation, materials use and waste reduction, and green building design and development practices—achieve additional emissions reduction.

a. Renewables Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. In January 2015, AB 197 was introduced, which, if enacted, would require an electrical corporation or local publicly owned electric utility to adopt a long-term procurement strategy to achieve a target of procuring 50 (not 33) percent of its electricity products from eligible renewable energy resources by 2030. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

b. Million Solar Roofs Program

The Million Solar Roofs Program was created by SB 1 in 2006 and includes the CPUC's California Solar Initiative and CEC's New Solar Homes Partnership. It requires publicly owned utilities to adopt, implement, and finance solar-incentive programs to lower the cost of solar systems and help achieve the goal of installing 3,000 megawatts of new solar capacity by 2020.

c. California Building Standards Code (Title 24)

The California Code of Regulations (CCR), Title 24, is referred to as the California Building Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, and energy efficiency. Of particular relevance to GHG reductions are the CBC's energy-efficiency and green building standards as outlined below.

d. California Code of Regulations, Title 24, Part 6 – Energy Efficiency Standards

Title 24, Part 6, of the CCR contains the Energy Efficiency Standards or California Energy Code. The most recent version of the Title 24, Part 6 standards is the 2013 Energy Code (2013 Title 24), which became effective on July 1, 2014.

The Energy Code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. Incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum standards.

The Title 24 Energy Code governs energy consumed by major building envelope systems such as space heating and cooling, ventilation, water heating, and some aspects of the fixed lighting system. Non-building energy use, "plug-in" energy use (such as appliances, equipment, electronics, and plug-in lighting), are independent of building design and not subject to Title 24.

New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. The compliance reports must demonstrate a building's energy performance through use of CEC approved energy performance software that shows iterative increases in energy efficiency given the selection of various heating, ventilation, and air conditioning (HVAC); sealing; glazing; insulation; and other components related to the building envelope.

e. California Code of Regulations, Title 24, Part 11 - Green Building Standards

Title 24, Part 11, of the CCR contains the California Green Building Standards. The California Green Building Standards Code, referred to as CalGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC), and was amended in July 2015. CalGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and low-rise residential buildings, state-owned buildings, schools, and hospitals. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these

same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory requirements and may also adopt the Green Building Standards with amendments for stricter requirements.

The mandatory standards require:

- 20 percent mandatory reduction in indoor water use relative to specified baseline levels;
- Installation of electric vehicle charging station infrastructure,
- 50 percent construction/demolition waste diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

The voluntary standards require:

Tier I—15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, cool/solar reflective roof; and

Tier II—30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, cool/solar reflective roof.

Similar to the compliance reporting procedure described above for demonstrating energy code compliance in new buildings and major renovations, compliance with the CalGreen water reduction requirements must be demonstrated through completion of water use reporting forms for new low-rise residential and non-residential buildings. The water use compliance form must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CalGreen or a reduced per-plumbing-fixture water use rate.

The 2013 CalGreen went into effect on January 1, 2014; however, affected energy provisions of the 2013 CalGreen, Part 11, Title 24 were not implemented until July 1, 2014. The 2013 CalGreen Code was amended in July 2015.

3.2.3 Local

The City of Del Mar has recognized that human-caused climate change is a reality, with potentially disruptive effects to the City's residents and businesses. The City also recognizes that local governments play a lead role in both reducing GHG emissions and adapting to the potential impacts of climate change.

3.2.3.1 Climate Action Plan Development

As stated previously, in March 2011, Del Mar worked with ICLEI to develop both government operations and community-wide GHG emissions inventories. These inventories establish the City's baseline GHG emissions, which was determined to be year 2005 to tie to the state's 2005 inventory used in the Scoping Plan, and comprise the first step in developing a CAP for Del Mar (as previously noted, the CAP is still under development). The City Council accepted this GHG emissions report in April 2011. Currently, City staff is working with citizen advisory groups to develop emission reductions for approval and have begun the process for development of the City's CAP. The goal of the CAP will be to reduce GHG emissions, curtail global warming, and establish adaptation strategies for Del Mar in response to climate change.

City staff is also presently participating in SANDAG's Energy Road Map program to develop an energy action plan tailored to the unique characteristics of Del Mar. Del Mar's road map will provide a framework for the City to save energy in government operations and in the community, resulting in cost savings and benefits to the environment until the CAP is completed.

3.2.3.2 Del Mar Solar Energy Ordinance

Chapter 23.20 of Del Mar's Municipal Code comprises the Del Mar Solar Energy Ordinance. The purpose of this ordinance is to decrease the City's dependence on nonrenewable energy sources through encouraging solar energy systems for the heating and cooling of new building spaces such as the proposed project. As stated in the Ordinance "it is intended that the energy requirements from conventional sources for space heating [cooling, and ventilating] shall be reduced by sixty percent or more for each structure falling within purview of this Chapter." Essentially all conventional HVAC system needs are to be provided with an active, passive, or hybrid solar system as follows:

Space Heating: "All new structures proposed or required to be heated shall to be provided with an active, passive, or hybrid solar space heating system. The solar space heating system shall be considered acceptable if it is designed to minimize the use of conventional energy sources consistent with the stated intent of this Chapter. The City Council may, from time to time, adopt by resolution, solar space heating guidelines intended to assist in the implementation of this Section. Required solar space heating systems shall at minimum meet or exceed said guidelines adopted by the City Council, or shall consist of an alternative design, in which, in the opinion of the City, is sufficient to meet or exceed the stated intent of this Chapter" (Municipal Code 23.20.040).

Space Cooling: "The installation of conventional air refrigeration systems will be discouraged in all structures. Permits for conventional air refrigeration systems when proposed, shall be at the discretion of the Design Review Board, or City Council on appeal. This section shall not apply to rooms where air refrigerants are necessary, such as medical treatment rooms, treatment rooms or rooms designed for the storage, maintenance, or processing of temperature sensitive materials or equipment" (Municipal Code 23.20.040).

All required solar energy systems shall be delineated on preliminary plans and submitted for consideration as part of the project design process.

4.0 Significance Criteria and Analysis Methodologies

4.1 Determining Significance

4.1.2 Impact Significance Thresholds

The City of Del Mar has not adopted CEQA thresholds of significance for GHG emissions. Thus, the proposed project's impact significance is based on guidance developed by the California Air Pollution Control Officer's Association (CAPCOA) statewide GHG emissions targets quantified by CARB in the Scoping Plan.

4.1.2.1 CEQA

The CEQA Guidelines, Appendix G Environmental Checklist, includes the following two questions regarding assessment of GHG emissions:

- Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs?

As stated in the Guidelines, these questions are “intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance” (CEQA Guidelines, Appendix G, Initial Study Checklist).

When adopting these thresholds, the amended CEQA Guidelines allow Lead Agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence, and/or to develop their own significance threshold.

The City has not formally adopted its own GHG Thresholds of Significance for CEQA and is following guidance from the CAPCOA report *CEQA & Climate Change*, dated January 2008, for interim screening criteria to determine when a GHG analysis would be required (CAPCOA 2008) and to determine when a cumulatively significant contribution of GHGs has occurred. Although the CAPCOA criteria are interim guidance, they represent a good faith effort to evaluate whether GHG impacts from a project are significant, taking into account the type and location of the proposed development, the best available scientific data regarding GHG emissions, and the current statewide goals and strategies for reduction of GHG emissions.

Based on available guidance from CAPCOA, the City would use a 900 MTCO₂E screening criterion as a point at which a project must prepare additional analysis. This is not to imply that a project above 900 MTCO₂E would be considered significant, rather it acknowledges that smaller projects less than 900 MTCO₂E would be highly unlikely to cause cumulatively considerable impacts due to GHG emissions and no further analysis is required. For projects that emit GHGs in excess of 900 MTCO₂E annually, a more comprehensive GHG emissions analysis would be required to demonstrate that the project design achieves the required reduction relative to project GHG emissions without consideration of reduction measures included in the project or state regulations affecting GHG emissions implemented after the 2008 Scoping Plan.

4.2 Methodology

4.2.1 General Assumptions

To evaluate the proposed project's net GHG emissions, emissions were calculated using California Emissions Estimator Model (CalEEMod). CalEEMod was developed with the participation of several state air districts including the San Diego Air Pollution Control District.

The emissions sources include construction (off-road vehicles), mobile (on-road vehicles), area (landscape maintenance equipment), energy, water and wastewater conveyance, and solid waste. GHG emissions are estimated in terms of total MTCO₂E. CO₂E emissions are the preferred way to assess combined GHG emissions, because they give weight to the GWP of a gas. The GWP is the potential of a gas to warm the global climate in the same amount as an equivalent amount of emissions of CO₂. CO₂ thus has a GWP of 1, CH₄ has a GWP of 21, and N₂O has a GWP of 310, which means CH₄ and N₂O have a greater global warming effect than CO₂.

The analysis methodology and input data are described in the following sections. Where project-specific data was not available, model inputs were based on information provided in the CalEEMod *User's Guide* (CAPCOA 2013).

4.2.2 Construction

Construction activities emit GHGs primarily through combustion of fuels (mostly diesel) in the engines of off-road construction equipment, combustion of diesel and gasoline in on-road construction vehicles, and the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in water use, such as for fugitive dust control. Every phase of the construction process, including demolition, grading, paving, and building, emits GHGs, in volumes proportional to the quantity and type of construction equipment used. The heavier equipment typically emits more GHGs per hour of use than the lighter equipment because of their greater fuel consumption and engine design.

GHG emissions associated with each phase of project construction are calculated in CalEEMod by multiplying the total fuel consumed by the construction equipment and worker trips by

applicable emission factors. The number and pieces of construction equipment are calculated based on the project-specific information.

Construction emissions are calculated for each year of construction activity based on the annual construction equipment usage and other factors determined as needed to complete all phases of construction. As such, each year having reported construction emissions has varying quantities of GHG emissions. However, the South Coast Air Quality Management District (SCAQMD) has recommended that total construction GHG emissions resulting from a project be amortized over 30 years and added to operational GHG emissions (SCAQMD 2009).

The construction phases for the proposed project include the following activities: grading for driveway improvements on the Shores Park site, placement of temporary relocation facilities on the Shore Park Site, demolition of existing City facilities on the proposed City Hall/Town Hall site, grading/land clearing, grading/excavation, fine grading, drainage/utilities, construction, paving, architectural coatings, and removal of the temporary relocation facilities from the Shores Park site. The City Hall/Town Hall site contains the existing City Hall, the existing Town Hall, and portable structures that would be demolished and/or removed. It is estimated approximately 30,000 cubic yards of soil would be excavated as part of the proposed project for the parking structure. The temporary relocation site at the Shores Park is currently developed with unlit parking and does not contain any substantial source of GHG emissions. With the exception of the driveway improvements and shallow trenching for utility connections at the Shores Park site, no other grading or site preparation is proposed.

4.2.3 Vehicles

GHG emissions from vehicles come from the combustion of fossil fuels in vehicle engines. The vehicle emissions are calculated based on the vehicle type and the trip rate for a specific land use. The vehicle emission factors and fleet mix used in CalEEMod are derived from CARB's Emission Factors 2011 model, which includes GHG reducing effects from the implementation of Pavley I (Clean Car Standards) and the Low Carbon Fuel Standard and are thus considered in the calculation of standards all emission scenarios.

Vehicle emissions are calculated by first calculating trip rate, trip length, trip purpose, and trip type percentages (e.g., home to work, home to other) for the land use type. The project would generate an equivalent of 4.5 trips per 1,000 square feet of Public Facility, designated in the model as civic center/government office space. SANDAG's regional average trip length of 5.8 miles was used to calculate the total annual Vehicle Miles Traveled (VMT) with the trip generation and trip purpose (SANDAG 2014).

To account for the effects of statewide GHG reduction measures in the transportation sector that occurred after the issuance of EMFAC 2011 and CalEEMod, the emissions estimates from mobile sources in this analysis were reduced by 3 percent. The Tire Pressure Program accounts for 0.6 percent and the Low Emission Vehicles III regulation accounts for 2.4 percent.

4.2.4 Energy Use

Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs within a building, the emissions are considered a direct emission associated with that building such as natural gas used for water or space heating. When emissions are generated at another location, such as a power plant, they are considered indirect emissions.

Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as plug-in appliances. The California Building Code, Title 24, Part 6, regulates energy consumed by the built environment, mechanical systems, and fixed lighting within buildings. Non-building energy use, or “plug-in energy use,” can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.). CalEEMod is based on the 2008 Title 24, however, the current code is Title 24 (2013), which was amended in July 2015.

The current increase in energy-efficiency standards of the 2013 Title 24, over the 2008 Title 24 standards, equates to a 21.8 percent decrease in electricity consumption and a 16.8 percent reduction in natural gas sources for non-residential uses (CEC 2014). The increase in energy efficiency is achieved through improved building components.

The energy consumption values used in this analysis are based on the CEC sponsored *California Commercial End Use Survey* and *Residential Appliance Saturation Survey*, which identify energy use by building type and climate zone. However, these studies evaluated older buildings and likely represent an overestimation of the actual energy requirements for new buildings in California.

The proposed project would be served by San Diego Gas & Electric (SDG&E). Therefore, SDG&E’s specific energy-intensity factors are used in the calculations of GHG emissions per kilowatt-hour consumed. As discussed, the state mandate for renewable energy is 33 percent by 2020. However, the energy-intensity factors included in CalEEMod by default only represent a 10.2 percent procurement of renewable energy (SDG&E 2011). To account for the continuing effects of SDG&E’s Renewable Portfolio Standard through 2020, the proposed project’s GHG emission estimates from electricity were reduced by 22.8 percent. Similar reductions were not applied to GHG emissions from natural gas.

The proposed project would install energy-efficient appliances in the new facilities. The energy-efficient appliances would include dishwashers, fans, and refrigerators. The proposed project may include installation of a solar photovoltaic system, and while the proposed project would be designed to achieve the goals of the Solar Energy Ordinance to the greatest extent feasible, solar improvements have not been considered in the calculation of energy consumption or GHG emissions.

4.2.5 Area Sources

Area sources of GHG emissions include hearths (fireplaces), woodstoves, emergency generators, and landscaping equipment. The use of fireplaces and woodstoves directly emits CO₂ from the

combustion of natural gas, wood, or biomass. However, the proposed project would not include any fireplaces or woodstoves. The use of landscape equipment and emergency generators emit GHGs associated with the equipment's fuel combustion. The landscaping equipment values were estimated and derived from the 2011 In-use Off-road Equipment Inventory Model (CARB 2011c).

4.2.6 Water and Wastewater

The amount of water used and wastewater generated by a project generates GHG emissions as a result of the energy used to convey and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both methane and nitrous oxide.

The indoor and outdoor water use consumption data for each land use subtype comes from the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California* 2003 (as cited in CAPCOA 2013). Outdoor water consumption and wastewater generation are based on a percentage of total indoor water use (CAPCOA 2013). The 2013 Title 24 Part 11 standards include mandatory indoor water reduction of 20 percent. Thus, a 20 percent reduction in indoor water use was applied to the proposed project.

As discussed previously, the energy-intensity factors included in CalEEMod represent a 10.2 percent procurement of renewable energy. To account for the continuing effects of SDG&E's Renewable Portfolio Standard through 2020, a 22.8 percent reduction was applied to the project's water-related GHG emissions.

4.2.7 Solid Waste

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the proposed project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery (CalRecycle). The rates provided by CalRecycle are generally based on surveys conducted in the 1990s and are considered very conservative. The method for calculating GHG emissions from solid waste uses the same method as the Intergovernmental Panel on Climate Change, i.e. based on the estimated degradable organic content of the waste. For the proposed project, it is estimated that total solid waste generated by it would be diverted by up to 25 percent over the estimated solid waste generation.

4.2.8 Methodology Summary

Table 5 provides a summary of the calculation methodology for each emission source calculated.

| Table 5 Comparison of Methodologies | | |
|--|--|--|
| Source | Existing | Project |
| Construction | No construction | Construction emissions were amortized over 30 years and added to operational emissions. |
| Vehicles | Vehicle emissions were calculated using vehicle emission factors for year 2015. | Vehicle emissions were calculated using vehicle emission factors for year 2020. Calculations also include a 3% reduction to account for LEV III and the Tire Pressure Program. |
| Energy | Energy emissions were calculated using 2005 Title 24 data and existing RPS factors for SDG&E. | <p>Energy emissions include increased energy efficiency per 2013 Title 24 standards. This includes the following increases over 2008 Title 24, Part 6 standards:</p> <ul style="list-style-type: none"> • 21.8% for non-residential electricity • 16.8% for non-residential natural gas <p>The proposed project would also include the use of Energy Star appliances. To account for the continuing effects of SDG&E's Renewable Portfolio Standard through 2020, a 22.8% reduction was applied to the proposed project's electricity-related GHG emissions.</p> |
| Area | Area source emissions were calculated based on standard landscaping equipment and quantities. No fireplaces were included. | Area source emissions were calculated based on standard landscaping equipment and quantities. The proposed project would not include fireplaces. |
| Water | Standard water consumption rates and energy intensity factors were used to estimate emissions. | A 20% increase in indoor water use efficiency was included in the water consumption calculations in accordance with 2013 Title 24 Part 11 standards. To account for the continuing effects of SDG&E's Renewable Portfolio Standard through 2020, a 22.8% reduction was applied to the proposed project's electricity-related GHG emissions. |
| Solid Waste | Emissions were calculated using standard generation rates and emission factors. | Emissions were calculated using standard generation rates and emission factors. A 25% reduction in solid waste generation was included in the proposed project. |

5.0 GHG Emissions Calculations

In accordance with CEQA and City guidance, this analysis evaluates the significance of the proposed project in terms of (1) its contribution of GHGs to cumulative statewide emissions and (2) its consistency with local and state regulations, plans, and policies aimed at reducing GHG emissions.

Under the first threshold, projects are evaluated first against a screening level threshold of 900 MTCO₂E. Projects that would surpass the 900 MTCO₂E screening threshold require a detailed GHG analysis, which would include a BAU analysis and a GHG reduction measure analysis to demonstrate that the regulation and proposed project design features will achieve a 28.3 percent emissions reduction. The projected GHG emissions were calculated using the methodology described in Section 4.2.

5.1 Existing GHG Emissions

In accordance with State CEQA Guidance Section 15064.4(b)(1), this section considers the “extent to which the project may increase or reduce [GHG] emissions as compared to the existing environmental setting.”

The project site currently contains the existing City Hall, the Town Hall, other City facilities and open space. The temporary relocation site at the Shores Park is currently developed with unlit parking and does not contain any substantial source of GHG emissions. As shown in Table 6, the existing land uses were calculated to emit 271 MTCO₂E in 2015, and the proposed project is anticipated to emit 585 MTCO₂E annually. Therefore, the GHG emissions from the proposed project would be greater than the existing emissions, increasing emissions over and above existing conditions by 273 MTCO₂E annually.

To evaluate the proposed project’s net GHG emissions, emissions were calculated using CalEEMod. CalEEMod was developed with the participation of several state air districts including the San Diego Air Pollution Control District. The emissions sources include construction (off-road vehicles), mobile (on-road vehicles), area (landscape maintenance equipment, on-site emergency generators), energy, water and wastewater conveyance, and solid waste. GHG emissions are estimated in terms of total MTCO₂E. CO₂E emissions are the preferred way to assess combined GHG emissions, because they give weight to the GWP of a gas. The analysis methodology and input data are described in the following sections. Where project-specific data was not available, model inputs were based on information provided in the CalEEMod *User’s Guide* (CAPCOA 2013).

Vehicle emissions are calculated by first calculating trip rate, trip length, trip purpose, and trip type percentages (e.g., home to work, home to other) for the land use type. The project would generate an equivalent of 4.5 trips per 1,000 square feet of Public Facility, designated in the model as civic center/government office space. SANDAG’s regional average trip length of 5.8 miles was used to calculate the total annual VMT with the trip generation and trip purpose (SANDAG 2014).

The complete calculations of existing estimated annual GHG emissions are included in Attachment 1 and summarized in Table 6. As shown, existing land uses on the proposed project site currently emit 271 MTCO₂E annually; no emissions currently exist on the proposed temporary relocation site as it is currently used for overflow parking associated with the Winston School operating on a portion of the site.

| Emissions Source | Existing |
|-------------------------------|-----------------|
| Area | <1 |
| Energy | 83 |
| Vehicles | 139 |
| Water | 31 |
| Solid Waste | 18 |
| <i>Operational Emissions</i> | 271 |
| <i>Construction Emissions</i> | -- |
| Total Emissions | 271 |

5.2 Proposed Project GHG Emissions

Based on the methodology summarized in Section 4.2, Methodology and Assumptions, the primary sources of direct and indirect GHG emissions have been calculated. The project site currently contains the existing City Hall, the Town Hall, other City facilities and open space. The temporary relocation site at the Shores Park is currently developed as a parking lot. Construction activities would be limited to access improvements and would result in less than 1 MTCO₂E to construct. As shown in Table 7, the existing land uses were estimated to emit 271 MTCO₂E in 2015, and the proposed project emissions, including the proposed improvements and operation on the temporary relocation site, is anticipated to emit 544 MTCO₂E annually. Therefore, the GHG emissions from the proposed project would be greater than the existing emissions, increasing emissions over and above existing conditions by 273 MTCO₂E annually.

After consideration of the existing sources of GHG emissions that would be demolished as part of the proposed project, the proposed project would result in a net increase of 273 MTCO₂E annually. Emissions are not projected to exceed the 900 MTCO₂E screening criterion. Thus, no additional detailed analysis is required, and impacts would be considered less than significant.

| Source | Existing | Project | Increase Over Existing |
|-------------------------------|------------|------------|------------------------|
| Area | <1 | <1 | <1 |
| Energy | 83 | 203 | 120 |
| Vehicles | 139 | 208 | 69 |
| Water | 31 | 67 | 36 |
| Solid Waste | 18 | 44 | 26 |
| <i>Operational Emissions</i> | 271 | 523 | 252 |
| <i>Construction Emissions</i> | -- | 21 | 21 |
| Total Emissions | 271 | 544 | 273 |

6.0 GHG Impact Analysis

6.1 GHG Emissions

As discussed, if a project exceeds 900 MTCO₂E, additional analysis is required to demonstrate that the project would meet a 28.3 percent reduction in GHG emissions as compared to a BAU scenario for compliance with the mandate of AB 32.

As show in Table 7, the proposed project, including the proposed improvements and operation on the temporary relocation site, is estimated to increase annual GHG emissions by 273 MTCO₂E. However, while the proposed project would result in an increase in GHG emissions over the existing condition, because climate change is occurring on a global scale, it is difficult with current scientific knowledge to quantify the specific amount of GHG emissions necessary for an individual project to have a cumulatively considerable effect. The Sacramento Metropolitan Air Quality Management District has recognized “that there is no known level of emissions that determines if a single project will substantially impact overall GHG emission levels in the atmosphere” (SMAQMD 2014). Additionally, the San Joaquin Valley Air Pollution Control District has concluded that “existing science is inadequate to support quantification of impacts that project-specific GHG emissions have on global climatic change” (SJVAPCD 2009). Indeed, there is no scientific or regulatory consensus regarding what particular quantity of GHG emissions is considered significant, and there remains no applicable adopted numeric threshold for assessing the significance of a project’s emissions. Unlike criteria pollutants, GHG emissions and climate change are not localized effects, and their magnitude cannot be quantified locally (CAPCOA 2008). Therefore, the increase of approximately 273 MTCO₂E per year, alone, is not a sufficiently informative or reliable indicator of the significance of the project’s GHG emissions.

6.1.1 Project GHG Emissions

Emission reduction measures considered in the calculation of GHG emissions for the proposed project include the continuing effects of RPS, statewide tailpipe emission reduction regulations, increased waste diversion consistent with CalRecycle goals, achieving a Tier 1 CalGreen goal, reduction in indoor water consumption by 20 percent in accordance with CalGreen, and building and construction techniques consistent with Title 24.

As shown in Table 7, total emissions associated with the proposed project, including the proposed improvements and operation on the temporary relocation site, without consideration of the existing emissions (544 MTCO₂E), would be less than 900 MTCO₂E annually. When considering the estimate of existing GHG emissions, the proposed project's net increase in GHG emissions would be 273 MTCO₂E annually. Thus, the GHG emissions due to the proposed project would be less than significant.

6.2 Consistency with Adopted Plans, Policies, and Regulations

As discussed above, the City utilizes the CAPCOA report *CEQA & Climate Change* to determine whether further detailed GHG analysis would be required. The 900 MTCO₂E criterion used to determine significance under CEQA was designed to set the emission threshold to exclude small development projects that would contribute a relatively small fraction of the cumulative statewide GHG emissions. These smaller projects were determined to not conflict with the AB 32 mandate for reducing GHG emission (CAPCOA 2008).

As discussed, the 900 MTCO₂E criterion was designed to set the emission threshold low enough such that smaller projects would not conflict with the State's AB 32 mandate for reducing GHG emission (CAPCOA 2008). As the proposed project, including the proposed improvements and operation on the temporary relocation site, would generate emissions below the 900 MTCO₂E threshold, it would not conflict with the AB 32 mandate for reducing GHG emissions. The proposed project would be consistent with the goals and strategies of local and state plans, policies, and regulations aimed at reducing GHG emissions from land use and development. Therefore, the impacts would be less than significant.

7.0 Conclusions

Emission reduction measures included in the emissions estimates are increased waste diversion consistent with CalRecycle goals, achieving a Tier 1 CalGreen goal, reduced indoor water consumption by 20 percent in accordance with CalGreen, and building and construction techniques consistent with the current Title 24. The modeling also includes the continuing effects of RPS through 2020 and well as state laws, such as LEVIII, Pavley, and LCFS. As summarized in Table 7, total emissions associated with the proposed project, including the proposed improvements and operation on the temporary relocation site, without consideration of the existing emissions would be less than 900 MTCO₂E annually.

As emissions would be below 900 MTCO₂E annually, the proposed project would not conflict with and is considered consistent with the overall goals and strategies of local and state plans, policies, and regulations aimed at reducing GHG emissions from land development. Therefore, the proposed project's overall contribution to cumulative GHG emissions would be less than significant.

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ATTACHMENT 1

**Existing Del Mar Civic Center/City Hall
San Diego County APCD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---------------------------|-------|----------|-------------|--------------------|------------|
| Government (Civic Center) | 11.89 | 1000sqft | 0.27 | 11,890.00 | 0 |
| Parking Lot | 57.00 | Space | 0.51 | 22,800.00 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|---------------------------------|--------------------------|---------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.6 | Precipitation Freq (Days) | 40 |
| Climate Zone | 13 | | | Operational Year | 2014 |
| Utility Company | San Diego Gas & Electric | | | | |
| CO2 Intensity (lb/MW hr) | 720.49 | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing Uses

Construction Phase - No Construction

Off-road Equipment - No Construction

Trips and VMT - No Construction

Vehicle Trips - SANDAG Regional Trip Distance

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - Historic Title 24

Water And Wastewater - Correction per Appendix D usage rates

Solid Waste - Correction per Appendix D

Construction Off-road Equipment Mitigation - No construction

Mobile Land Use Mitigation -

Consumer Products -

Area Coating -

Landscape Equipment -

| Table Name | Column Name | Default Value | New Value |
|----------------------|----------------------------|---------------|-----------|
| tblConstructionPhase | NumDays | 100.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.00 |
| tblTripsAndVMT | VendorTripNumber | 6.00 | 0.00 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 13.00 | 0.00 |
| tblVehicleTrips | CC_TL | 7.30 | 5.80 |
| tblVehicleTrips | CNW_TL | 7.30 | 5.80 |
| tblVehicleTrips | CW_TL | 9.50 | 5.80 |

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.1501 | 1.0000e-005 | 6.6000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.2300e-003 | 1.2300e-003 | 0.0000 | 0.0000 | 1.3100e-003 |
| Energy | 1.5100e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 82.6676 | 82.6676 | 3.0100e-003 | 8.4000e-004 | 82.9907 |
| Mobile | 0.2728 | 0.2493 | 1.2549 | 1.6700e-003 | 0.1106 | 3.2100e-003 | 0.1138 | 0.0296 | 2.9400e-003 | 0.0325 | 0.0000 | 139.0090 | 139.0090 | 7.4000e-003 | 0.0000 | 139.1643 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 13.7567 | 0.0000 | 13.7567 | 0.8130 | 0.0000 | 30.8297 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.7494 | 15.3079 | 16.0573 | 0.0776 | 1.9400e-003 | 18.2895 |
| Total | 0.4244 | 0.2630 | 1.2671 | 1.7500e-003 | 0.1106 | 4.2500e-003 | 0.1149 | 0.0296 | 3.9800e-003 | 0.0336 | 14.5061 | 236.9857 | 251.4918 | 0.9010 | 2.7800e-003 | 271.2754 |

2.2 Overall Operational

Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.1501 | 1.0000e-005 | 6.6000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.2300e-003 | 1.2300e-003 | 0.0000 | 0.0000 | 1.3100e-003 |
| Energy | 1.5100e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 82.6676 | 82.6676 | 3.0100e-003 | 8.4000e-004 | 82.9907 |
| Mobile | 0.2728 | 0.2493 | 1.2549 | 1.6700e-003 | 0.1106 | 3.2100e-003 | 0.1138 | 0.0296 | 2.9400e-003 | 0.0325 | 0.0000 | 139.0090 | 139.0090 | 7.4000e-003 | 0.0000 | 139.1643 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 13.7567 | 0.0000 | 13.7567 | 0.8130 | 0.0000 | 30.8297 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.7494 | 15.3079 | 16.0573 | 0.0776 | 1.9400e-003 | 18.2883 |
| Total | 0.4244 | 0.2630 | 1.2671 | 1.7500e-003 | 0.1106 | 4.2500e-003 | 0.1149 | 0.0296 | 3.9800e-003 | 0.0336 | 14.5061 | 236.9857 | 251.4918 | 0.9010 | 2.7800e-003 | 271.2742 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|-------------|--------|-------------|
| Percent Reduction | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.1099e-003 | 0.0000 | 4.4235e-004 |

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|----------|---------------|----------|-------------------|
| 1 | Building Construction | Building Construction | 1/1/2016 | 1/1/2016 | 5 | 1 | |

OffRoad Equipment

3.2 Building Construction - 2016

Mitigated Construction Off-Site

Acres of Grading: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|----------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.2728 | 0.2493 | 1.2549 | 1.6700e-003 | 0.1106 | 3.2100e-003 | 0.1138 | 0.0296 | 2.9400e-003 | 0.0325 | 0.0000 | 139.0090 | 139.0090 | 7.4000e-003 | 0.0000 | 139.1643 |
| Unmitigated | 0.2728 | 0.2493 | 1.2549 | 1.6700e-003 | 0.1106 | 3.2100e-003 | 0.1138 | 0.0296 | 2.9400e-003 | 0.0325 | 0.0000 | 139.0090 | 139.0090 | 7.4000e-003 | 0.0000 | 139.1643 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---------------------------|-------------------------|-------------|-------------|----------------|----------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Government (Civic Center) | 331.97 | 0.00 | 0.00 | 294,237 | 294,237 |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 331.97 | 0.00 | 0.00 | 294,237 | 294,237 |

4.3 Trip Type Information

| Land Use | Miles | | | Trip % | | | Trip Purpose % | | |
|---------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Government (Civic Center) | 5.80 | 5.80 | 5.80 | 75.00 | 20.00 | 5.00 | 50 | 34 | 16 |
| Parking Lot | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

4.4 Fleet Mix

| LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0.509376 | 0.073655 | 0.192210 | 0.135105 | 0.037177 | 0.005354 | 0.012300 | 0.020284 | 0.001820 | 0.002092 | 0.006537 | 0.000620 | 0.003469 |

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 67.7189 | 67.7189 | 2.7300e-003 | 5.6000e-004 | 67.9510 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 67.7189 | 67.7189 | 2.7300e-003 | 5.6000e-004 | 67.9510 |
| NaturalGas Mitigated | 1.5100e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.9487 | 14.9487 | 2.9000e-004 | 2.7000e-004 | 15.0397 |
| NaturalGas Unmitigated | 1.5100e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.9487 | 14.9487 | 2.9000e-004 | 2.7000e-004 | 15.0397 |

5.2 Energy by Land Use - NaturalGas

Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Government (Civic Center) | 280128 | 1.5100e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.9487 | 14.9487 | 2.9000e-004 | 2.7000e-004 | 15.0397 |
| Total | | 1.5100e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.9487 | 14.9487 | 2.9000e-004 | 2.7000e-004 | 15.0397 |

5.2 Energy by Land Use - NaturalGas

Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Government (Civic Center) | 280128 | 1.5100e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.9487 | 14.9487 | 2.9000e-004 | 2.7000e-004 | 15.0397 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.5100e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.9487 | 14.9487 | 2.9000e-004 | 2.7000e-004 | 15.0397 |

5.3 Energy by Land Use - Electricity

Unmitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kWh/yr | MT/yr | | | |
| Government (Civic Center) | 187149 | 61.1618 | 2.4600e-003 | 5.1000e-004 | 61.3714 |
| Parking Lot | 20064 | 6.5571 | 2.6000e-004 | 5.0000e-005 | 6.5796 |
| Total | | 67.7189 | 2.7200e-003 | 5.6000e-004 | 67.9510 |

5.3 Energy by Land Use - Electricity

Mitigated

| Land Use | Electricity Use kWh/yr | Total CO2 MT/yr | CH4 MT/yr | N2O MT/yr | CO2e MT/yr |
|---------------------------|---------------------------|--------------------|--------------------|--------------------|----------------|
| Government (Civic Center) | 187149 | 61.1618 | 2.4600e-003 | 5.1000e-004 | 61.3714 |
| Parking Lot | 20064 | 6.5571 | 2.6000e-004 | 5.0000e-005 | 6.5796 |
| Total | | 67.7189 | 2.7200e-003 | 5.6000e-004 | 67.9510 |

6.0 Area Detail

6.1 Mitigation Measures Area

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|-------------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.1501 | 1.0000e-005 | 6.6000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.2300e-003 | 1.2300e-003 | 0.0000 | 0.0000 | 1.3100e-003 |
| Unmitigated | 0.1501 | 1.0000e-005 | 6.6000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.2300e-003 | 1.2300e-003 | 0.0000 | 0.0000 | 1.3100e-003 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0146 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.1355 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.0000e-005 | 1.0000e-005 | 6.6000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.2300e-003 | 1.2300e-003 | 0.0000 | 0.0000 | 1.3100e-003 |
| Total | 0.1501 | 1.0000e-005 | 6.6000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.2300e-003 | 1.2300e-003 | 0.0000 | 0.0000 | 1.3100e-003 |

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0146 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.1355 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.0000e-005 | 1.0000e-005 | 6.6000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.2300e-003 | 1.2300e-003 | 0.0000 | 0.0000 | 1.3100e-003 |
| Total | 0.1501 | 1.0000e-005 | 6.6000e-004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.2300e-003 | 1.2300e-003 | 0.0000 | 0.0000 | 1.3100e-003 |

7.0 Water Detail

7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|-------------|---------|
| Category | MT/yr | | | |
| Mitigated | 16.0573 | 0.0776 | 1.9400e-003 | 18.2883 |
| Unmitigated | 16.0573 | 0.0776 | 1.9400e-003 | 18.2895 |

7.2 Water by Land Use

Unmitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|--------------------|----------------|---------------|--------------------|----------------|
| Land Use | Mgal | MT/yr | | | |
| Government (Civic Center) | 2.36206 / 1.44772 | 16.0573 | 0.0776 | 1.9400e-003 | 18.2895 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 16.0573 | 0.0776 | 1.9400e-003 | 18.2895 |

7.2 Water by Land Use

Mitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|--------------------|----------------|---------------|--------------------|----------------|
| Land Use | Mgal | MT/yr | | | |
| Government (Civic Center) | 2.36206 / 1.44772 | 16.0573 | 0.0776 | 1.9400e-003 | 18.2883 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 16.0573 | 0.0776 | 1.9400e-003 | 18.2883 |

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|---------|
| | MT/yr | | | |
| Unmitigated | 13.7567 | 0.8130 | 0.0000 | 30.8297 |
| Mitigated | 13.7567 | 0.8130 | 0.0000 | 30.8297 |

8.2 Waste by Land Use

Unmitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use | tons | MT/yr | | | |
| Government (Civic Center) | 67.77 | 13.7567 | 0.8130 | 0.0000 | 30.8297 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 13.7567 | 0.8130 | 0.0000 | 30.8297 |

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use | tons | MT/yr | | | |
| Government (Civic Center) | 67.77 | 13.7567 | 0.8130 | 0.0000 | 30.8297 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 13.7567 | 0.8130 | 0.0000 | 30.8297 |

9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

10.0 Vegetation

Del Mar City Hall
San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|----------------------------|--------|----------|-------------|--------------------|------------|
| Government (Civic Center) | 32.45 | 1000sqft | 0.74 | 32,450.00 | 0 |
| Enclosed Parking Structure | 110.00 | Space | 0.99 | 44,000.00 | 0 |
| Parking Lot | 50.00 | Space | 0.45 | 20,000.00 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|--------------------------------|--------------------------|--------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.6 | Precipitation Freq (Days) | 40 |
| Climate Zone | 13 | | | Operational Year | 2017 |
| Utility Company | San Diego Gas & Electric | | | | |
| CO2 Intensity (lb/MWhr) | 611.81 | CH4 Intensity (lb/MWhr) | 0.029 | N2O Intensity (lb/MWhr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS Adjustment

Land Use - Per Project Plans

Construction Phase - Per Project Schedule

Demolition - All on-site structures

Grading - Site is only 1.5 Acres

Architectural Coating - Rule 67

Vehicle Trips - SANDAG Region Trip Length

Vehicle Emission Factors - X

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - No change

Water And Wastewater - No Change

Solid Waste - No Change

Construction Off-road Equipment Mitigation - Watering per project description

Mobile Land Use Mitigation -

Water Mitigation - Title 24 Part 11 Requirements

Waste Mitigation - Waste Reduction Plan

| Table Name | Column Name | Default Value | New Value |
|---------------------------|----------------------------|---------------|-----------|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 200.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 150.00 |
| tblConstructionPhase | NumDays | 10.00 | 21.00 |
| tblConstructionPhase | NumDays | 220.00 | 325.00 |
| tblConstructionPhase | NumDays | 6.00 | 40.00 |
| tblConstructionPhase | PhaseEndDate | 6/27/2017 | 6/26/2017 |
| tblConstructionPhase | PhaseEndDate | 7/10/2017 | 5/26/2017 |
| tblConstructionPhase | PhaseStartDate | 5/27/2017 | 5/29/2017 |
| tblConstructionPhase | PhaseStartDate | 3/30/2016 | 3/29/2016 |
| tblConstructionPhase | PhaseStartDate | 6/27/2017 | 5/15/2017 |
| tblGrading | AcresOfGrading | 20.00 | 3.00 |
| tblGrading | MaterialExported | 0.00 | 30,000.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 720.49 | 611.81 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2017 |
| tblVehicleTrips | CC_TL | 7.30 | 5.80 |
| tblVehicleTrips | CNW_TL | 7.30 | 5.80 |
| tblVehicleTrips | CW_TL | 9.50 | 5.80 |

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2016 | 0.6284 | 3.9909 | 3.0510 | 5.0700e-003 | 0.1987 | 0.2231 | 0.4219 | 0.0861 | 0.2117 | 0.2978 | 0.0000 | 444.6309 | 444.6309 | 0.0700 | 0.0000 | 446.0999 |
| 2017 | 0.8552 | 1.6436 | 1.3305 | 2.1700e-003 | 0.0264 | 0.1005 | 0.1269 | 7.1600e-003 | 0.0960 | 0.1032 | 0.0000 | 183.3796 | 183.3796 | 0.0334 | 0.0000 | 184.0816 |
| Total | 1.4836 | 5.6345 | 4.3815 | 7.2400e-003 | 0.2252 | 0.3236 | 0.5488 | 0.0933 | 0.3077 | 0.4010 | 0.0000 | 628.0105 | 628.0105 | 0.1034 | 0.0000 | 630.1815 |

Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2016 | 0.6279 | 3.9869 | 3.0483 | 5.0700e-003 | 0.8695 | 0.2229 | 1.0924 | 0.2291 | 0.2114 | 0.4405 | 0.0000 | 444.3013 | 444.3013 | 0.0699 | 0.0000 | 445.7686 |
| 2017 | 0.8549 | 1.6417 | 1.3292 | 2.1700e-003 | 0.0264 | 0.1003 | 0.1268 | 7.1600e-003 | 0.0959 | 0.1031 | 0.0000 | 183.2080 | 183.2080 | 0.0334 | 0.0000 | 183.9093 |
| Total | 1.4828 | 5.6286 | 4.3774 | 7.2400e-003 | 0.8960 | 0.3232 | 1.2192 | 0.2363 | 0.3073 | 0.5436 | 0.0000 | 627.5094 | 627.5094 | 0.1033 | 0.0000 | 629.6779 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|---------------|---------------|---------------|---------------|------------------|---------------|------------------|------------------|---------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Percent Reduction | 0.0546 | 0.1040 | 0.0924 | 0.0000 | -297.9127 | 0.1113 | -122.1736 | -153.2369 | 0.1170 | -35.5721 | 0.0000 | 0.0798 | 0.0798 | 0.1161 | 0.0000 | 0.0799 |

2.2 Overall Operational**Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.4661 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.4400e-003 | 3.4400e-003 | 1.0000e-005 | 0.0000 | 3.6400e-003 |
| Energy | 3.6800e-003 | 0.0335 | 0.0281 | 2.0000e-004 | | 2.5400e-003 | 2.5400e-003 | | 2.5400e-003 | 2.5400e-003 | 0.0000 | 256.2691 | 256.2691 | 0.0111 | 2.8200e-003 | 257.3779 |
| Mobile | 0.6100 | 0.5247 | 2.7006 | 4.5600e-003 | 0.3020 | 6.0900e-003 | 0.3081 | 0.0808 | 5.6100e-003 | 0.0864 | 0.0000 | 348.7546 | 348.7546 | 0.0159 | 0.0000 | 349.0887 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 37.5472 | 0.0000 | 37.5472 | 2.2190 | 0.0000 | 84.1458 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2.0452 | 35.4762 | 37.5214 | 0.2117 | 5.3100e-003 | 43.6134 |
| Total | 1.0798 | 0.5582 | 2.7305 | 4.7600e-003 | 0.3020 | 8.6400e-003 | 0.3106 | 0.0808 | 8.1600e-003 | 0.0889 | 39.5924 | 640.5033 | 680.0958 | 2.4578 | 8.1300e-003 | 734.2295 |

2.2 Overall Operational

Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.4661 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.4400e-003 | 3.4400e-003 | 1.0000e-005 | 0.0000 | 3.6400e-003 |
| Energy | 3.6800e-003 | 0.0335 | 0.0281 | 2.0000e-004 | | 2.5400e-003 | 2.5400e-003 | | 2.5400e-003 | 2.5400e-003 | 0.0000 | 256.2691 | 256.2691 | 0.0111 | 2.8200e-003 | 257.3779 |
| Mobile | 0.6100 | 0.5247 | 2.7006 | 4.5600e-003 | 0.3020 | 6.0900e-003 | 0.3081 | 0.0808 | 5.6100e-003 | 0.0864 | 0.0000 | 348.7546 | 348.7546 | 0.0159 | 0.0000 | 349.0887 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 28.1604 | 0.0000 | 28.1604 | 1.6642 | 0.0000 | 63.1093 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2.0452 | 35.4762 | 37.5214 | 0.2117 | 5.3000e-003 | 43.6101 |
| Total | 1.0798 | 0.5582 | 2.7305 | 4.7600e-003 | 0.3020 | 8.6400e-003 | 0.3106 | 0.0808 | 8.1600e-003 | 0.0889 | 30.2056 | 640.5033 | 670.7090 | 1.9030 | 8.1200e-003 | 713.1897 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|---------|--------|--------|
| Percent Reduction | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 23.7086 | 0.0000 | 1.3802 | 22.5730 | 0.1230 | 2.8655 |

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|-----------|---------------|----------|-------------------|
| 1 | Demolition | Demolition | 1/1/2016 | 1/28/2016 | 5 | 20 | |
| 2 | Site Preparation | Site Preparation | 1/29/2016 | 2/2/2016 | 5 | 3 | |
| 3 | Grading | Grading | 2/3/2016 | 3/29/2016 | 5 | 40 | |
| 4 | Building Construction | Building Construction | 3/29/2016 | 6/26/2017 | 5 | 325 | |
| 5 | Paving | Paving | 5/15/2017 | 5/26/2017 | 5 | 10 | |
| 6 | Architectural Coating | Architectural Coating | 5/29/2017 | 6/26/2017 | 5 | 21 | |

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 255 | 0.40 |
| Demolition | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Site Preparation | Graders | 1 | 8.00 | 174 | 0.41 |
| Site Preparation | Scrapers | 1 | 8.00 | 361 | 0.48 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 174 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 255 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 2 | 7.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 8.00 | 226 | 0.29 |
| Building Construction | Forklifts | 2 | 7.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Paving | Cement and Mortar Mixers | 1 | 8.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 8.00 | 125 | 0.42 |
| Paving | Paving Equipment | 1 | 8.00 | 130 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 5 | 13.00 | 0.00 | 54.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 3 | 8.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 2,966.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 8 | 37.00 | 16.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 7.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2016

Unmitigated Construction On-Site

Acres of Grading: 4.5

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 5.9300e-003 | 0.0000 | 5.9300e-003 | 9.0000e-004 | 0.0000 | 9.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0291 | 0.2826 | 0.2150 | 2.4000e-004 | | 0.0175 | 0.0175 | | 0.0163 | 0.0163 | 0.0000 | 22.5629 | 22.5629 | 5.7000e-003 | 0.0000 | 22.6827 |
| Total | 0.0291 | 0.2826 | 0.2150 | 2.4000e-004 | 5.9300e-003 | 0.0175 | 0.0234 | 9.0000e-004 | 0.0163 | 0.0172 | 0.0000 | 22.5629 | 22.5629 | 5.7000e-003 | 0.0000 | 22.6827 |

3.2 Demolition - 2016

Unmitigated Construction Off-Site

Acres of Grading: 4.5

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 1.3900e-003 | 7.8400e-003 | 6.4600e-003 | 2.0000e-005 | 4.6000e-004 | 1.0000e-004 | 5.6000e-004 | 1.3000e-004 | 1.0000e-004 | 2.2000e-004 | 0.0000 | 1.8442 | 1.8442 | 1.0000e-005 | 0.0000 | 1.8445 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8900e-003 | 5.9000e-004 | 5.6100e-003 | 1.0000e-005 | 1.0400e-003 | 1.0000e-005 | 1.0500e-003 | 2.8000e-004 | 1.0000e-005 | 2.8000e-004 | 0.0000 | 0.9715 | 0.9715 | 5.0000e-005 | 0.0000 | 0.9726 |
| Total | 3.2800e-003 | 8.4300e-003 | 0.0121 | 3.0000e-005 | 1.5000e-003 | 1.1000e-004 | 1.6100e-003 | 4.1000e-004 | 1.1000e-004 | 5.0000e-004 | 0.0000 | 2.8157 | 2.8157 | 6.0000e-005 | 0.0000 | 2.8171 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 2.3100e-003 | 0.0000 | 2.3100e-003 | 3.5000e-004 | 0.0000 | 3.5000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0290 | 0.2822 | 0.2147 | 2.4000e-004 | | 0.0174 | 0.0174 | | 0.0163 | 0.0163 | 0.0000 | 22.5360 | 22.5360 | 5.7000e-003 | 0.0000 | 22.6557 |
| Total | 0.0290 | 0.2822 | 0.2147 | 2.4000e-004 | 2.3100e-003 | 0.0174 | 0.0197 | 3.5000e-004 | 0.0163 | 0.0167 | 0.0000 | 22.5360 | 22.5360 | 5.7000e-003 | 0.0000 | 22.6557 |

3.2 Demolition - 2016

Mitigated Construction Off-Site

Acres of Grading: 4.5

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 1.3900e-003 | 7.8400e-003 | 6.4600e-003 | 2.0000e-005 | 7.0600e-003 | 1.0000e-004 | 7.1600e-003 | 1.7500e-003 | 1.0000e-004 | 1.8400e-003 | 0.0000 | 1.8442 | 1.8442 | 1.0000e-005 | 0.0000 | 1.8445 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8900e-003 | 5.9000e-004 | 5.6100e-003 | 1.0000e-005 | 1.0400e-003 | 1.0000e-005 | 1.0500e-003 | 2.8000e-004 | 1.0000e-005 | 2.8000e-004 | 0.0000 | 0.9715 | 0.9715 | 5.0000e-005 | 0.0000 | 0.9726 |
| Total | 3.2800e-003 | 8.4300e-003 | 0.0121 | 3.0000e-005 | 8.1000e-003 | 1.1000e-004 | 8.2100e-003 | 2.0300e-003 | 1.1000e-004 | 2.1200e-003 | 0.0000 | 2.8157 | 2.8157 | 6.0000e-005 | 0.0000 | 2.8171 |

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

Acres of Grading: 3

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 2.3900e-003 | 0.0000 | 2.3900e-003 | 2.6000e-004 | 0.0000 | 2.6000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.0500e-003 | 0.0462 | 0.0271 | 4.0000e-005 | | 2.2700e-003 | 2.2700e-003 | | 2.0900e-003 | 2.0900e-003 | 0.0000 | 3.3749 | 3.3749 | 1.0200e-003 | 0.0000 | 3.3962 |
| Total | 4.0500e-003 | 0.0462 | 0.0271 | 4.0000e-005 | 2.3900e-003 | 2.2700e-003 | 4.6600e-003 | 2.6000e-004 | 2.0900e-003 | 2.3500e-003 | 0.0000 | 3.3749 | 3.3749 | 1.0200e-003 | 0.0000 | 3.3962 |

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

Acres of Grading: 3

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.7000e-004 | 5.0000e-005 | 5.2000e-004 | 0.0000 | 1.0000e-004 | 0.0000 | 1.0000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0897 | 0.0897 | 0.0000 | 0.0000 | 0.0898 |
| Total | 1.7000e-004 | 5.0000e-005 | 5.2000e-004 | 0.0000 | 1.0000e-004 | 0.0000 | 1.0000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0897 | 0.0897 | 0.0000 | 0.0000 | 0.0898 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 9.3000e-004 | 0.0000 | 9.3000e-004 | 1.0000e-004 | 0.0000 | 1.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.0400e-003 | 0.0462 | 0.0271 | 4.0000e-005 | | 2.2600e-003 | 2.2600e-003 | | 2.0800e-003 | 2.0800e-003 | 0.0000 | 3.3709 | 3.3709 | 1.0200e-003 | 0.0000 | 3.3922 |
| Total | 4.0400e-003 | 0.0462 | 0.0271 | 4.0000e-005 | 9.3000e-004 | 2.2600e-003 | 3.1900e-003 | 1.0000e-004 | 2.0800e-003 | 2.1800e-003 | 0.0000 | 3.3709 | 3.3709 | 1.0200e-003 | 0.0000 | 3.3922 |

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

Acres of Grading: 3

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.7000e-004 | 5.0000e-005 | 5.2000e-004 | 0.0000 | 1.0000e-004 | 0.0000 | 1.0000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0897 | 0.0897 | 0.0000 | 0.0000 | 0.0898 |
| Total | 1.7000e-004 | 5.0000e-005 | 5.2000e-004 | 0.0000 | 1.0000e-004 | 0.0000 | 1.0000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0897 | 0.0897 | 0.0000 | 0.0000 | 0.0898 |

3.4 Grading - 2016

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.1220 | 0.0000 | 0.1220 | 0.0664 | 0.0000 | 0.0664 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0571 | 0.5989 | 0.3927 | 4.1000e-004 | | 0.0333 | 0.0333 | | 0.0307 | 0.0307 | 0.0000 | 38.8143 | 38.8143 | 0.0117 | 0.0000 | 39.0602 |
| Total | 0.0571 | 0.5989 | 0.3927 | 4.1000e-004 | 0.1220 | 0.0333 | 0.1554 | 0.0664 | 0.0307 | 0.0971 | 0.0000 | 38.8143 | 38.8143 | 0.0117 | 0.0000 | 39.0602 |

3.4 Grading - 2016

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0766 | 0.4306 | 0.3548 | 1.1100e-003 | 0.0253 | 5.6800e-003 | 0.0310 | 6.9400e-003 | 5.2300e-003 | 0.0122 | 0.0000 | 101.2965 | 101.2965 | 7.3000e-004 | 0.0000 | 101.3117 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.9100e-003 | 9.1000e-004 | 8.6400e-003 | 2.0000e-005 | 1.6000e-003 | 1.0000e-005 | 1.6200e-003 | 4.3000e-004 | 1.0000e-005 | 4.4000e-004 | 0.0000 | 1.4946 | 1.4946 | 8.0000e-005 | 0.0000 | 1.4963 |
| Total | 0.0795 | 0.4315 | 0.3634 | 1.1300e-003 | 0.0269 | 5.6900e-003 | 0.0326 | 7.3700e-003 | 5.2400e-003 | 0.0126 | 0.0000 | 102.7911 | 102.7911 | 8.1000e-004 | 0.0000 | 102.8080 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0476 | 0.0000 | 0.0476 | 0.0259 | 0.0000 | 0.0259 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0570 | 0.5982 | 0.3922 | 4.1000e-004 | | 0.0333 | 0.0333 | | 0.0306 | 0.0306 | 0.0000 | 38.7682 | 38.7682 | 0.0117 | 0.0000 | 39.0137 |
| Total | 0.0570 | 0.5982 | 0.3922 | 4.1000e-004 | 0.0476 | 0.0333 | 0.0809 | 0.0259 | 0.0306 | 0.0565 | 0.0000 | 38.7682 | 38.7682 | 0.0117 | 0.0000 | 39.0137 |

3.4 Grading - 2016

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0766 | 0.4306 | 0.3548 | 1.1100e-003 | 0.7690 | 5.6800e-003 | 0.7747 | 0.1895 | 5.2300e-003 | 0.1947 | 0.0000 | 101.2965 | 101.2965 | 7.3000e-004 | 0.0000 | 101.3117 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.9100e-003 | 9.1000e-004 | 8.6400e-003 | 2.0000e-005 | 1.6000e-003 | 1.0000e-005 | 1.6200e-003 | 4.3000e-004 | 1.0000e-005 | 4.4000e-004 | 0.0000 | 1.4946 | 1.4946 | 8.0000e-005 | 0.0000 | 1.4963 |
| Total | 0.0795 | 0.4315 | 0.3634 | 1.1300e-003 | 0.7706 | 5.6900e-003 | 0.7763 | 0.1899 | 5.2400e-003 | 0.1952 | 0.0000 | 102.7911 | 102.7911 | 8.1000e-004 | 0.0000 | 102.8080 |

3.5 Building Construction - 2016

Unmitigated Construction On-Site

Acres of Paving: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3680 | 2.4509 | 1.6633 | 2.4800e-003 | | 0.1618 | 0.1618 | | 0.1549 | 0.1549 | 0.0000 | 212.3232 | 212.3232 | 0.0489 | 0.0000 | 213.3506 |
| Total | 0.3680 | 2.4509 | 1.6633 | 2.4800e-003 | | 0.1618 | 0.1618 | | 0.1549 | 0.1549 | 0.0000 | 212.3232 | 212.3232 | 0.0489 | 0.0000 | 213.3506 |

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

Acres of Paving: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0337 | 0.1555 | 0.2179 | 3.8000e-004 | 0.0104 | 2.2900e-003 | 0.0127 | 2.9600e-003 | 2.1100e-003 | 5.0700e-003 | 0.0000 | 34.3469 | 34.3469 | 2.7000e-004 | 0.0000 | 34.3526 |
| Worker | 0.0536 | 0.0167 | 0.1590 | 3.6000e-004 | 0.0295 | 2.3000e-004 | 0.0298 | 7.8500e-003 | 2.1000e-004 | 8.0500e-003 | 0.0000 | 27.5122 | 27.5122 | 1.4500e-003 | 0.0000 | 27.5428 |
| Total | 0.0873 | 0.1722 | 0.3769 | 7.4000e-004 | 0.0399 | 2.5200e-003 | 0.0424 | 0.0108 | 2.3200e-003 | 0.0131 | 0.0000 | 61.8591 | 61.8591 | 1.7200e-003 | 0.0000 | 61.8953 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.3676 | 2.4480 | 1.6613 | 2.4700e-003 | | 0.1616 | 0.1616 | | 0.1547 | 0.1547 | 0.0000 | 212.0706 | 212.0706 | 0.0489 | 0.0000 | 213.0968 |
| Total | 0.3676 | 2.4480 | 1.6613 | 2.4700e-003 | | 0.1616 | 0.1616 | | 0.1547 | 0.1547 | 0.0000 | 212.0706 | 212.0706 | 0.0489 | 0.0000 | 213.0968 |

3.5 Building Construction - 2016

Mitigated Construction Off-Site

Acres of Paving: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0337 | 0.1555 | 0.2179 | 3.8000e-004 | 0.0104 | 2.2900e-003 | 0.0127 | 2.9600e-003 | 2.1100e-003 | 5.0700e-003 | 0.0000 | 34.3469 | 34.3469 | 2.7000e-004 | 0.0000 | 34.3526 |
| Worker | 0.0536 | 0.0167 | 0.1590 | 3.6000e-004 | 0.0295 | 2.3000e-004 | 0.0298 | 7.8500e-003 | 2.1000e-004 | 8.0500e-003 | 0.0000 | 27.5122 | 27.5122 | 1.4500e-003 | 0.0000 | 27.5428 |
| Total | 0.0873 | 0.1722 | 0.3769 | 7.4000e-004 | 0.0399 | 2.5200e-003 | 0.0424 | 0.0108 | 2.3200e-003 | 0.0131 | 0.0000 | 61.8591 | 61.8591 | 1.7200e-003 | 0.0000 | 61.8953 |

3.5 Building Construction - 2017

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.2096 | 1.4401 | 1.0237 | 1.5700e-003 | | 0.0921 | 0.0921 | | 0.0882 | 0.0882 | 0.0000 | 133.4429 | 133.4429 | 0.0297 | 0.0000 | 134.0657 |
| Total | 0.2096 | 1.4401 | 1.0237 | 1.5700e-003 | | 0.0921 | 0.0921 | | 0.0882 | 0.0882 | 0.0000 | 133.4429 | 133.4429 | 0.0297 | 0.0000 | 134.0657 |

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

Acres of Paving: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0194 | 0.0880 | 0.1304 | 2.4000e-004 | 6.5600e-003 | 1.2600e-003 | 7.8200e-003 | 1.8800e-003 | 1.1600e-003 | 3.0300e-003 | 0.0000 | 21.3797 | 21.3797 | 1.6000e-004 | 0.0000 | 21.3831 |
| Worker | 0.0316 | 9.6000e-003 | 0.0908 | 2.3000e-004 | 0.0187 | 1.4000e-004 | 0.0188 | 4.9700e-003 | 1.3000e-004 | 5.1000e-003 | 0.0000 | 16.7468 | 16.7468 | 8.5000e-004 | 0.0000 | 16.7646 |
| Total | 0.0509 | 0.0976 | 0.2211 | 4.7000e-004 | 0.0253 | 1.4000e-003 | 0.0267 | 6.8500e-003 | 1.2900e-003 | 8.1300e-003 | 0.0000 | 38.1264 | 38.1264 | 1.0100e-003 | 0.0000 | 38.1477 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.2094 | 1.4384 | 1.0225 | 1.5700e-003 | | 0.0920 | 0.0920 | | 0.0881 | 0.0881 | 0.0000 | 133.2841 | 133.2841 | 0.0296 | 0.0000 | 133.9062 |
| Total | 0.2094 | 1.4384 | 1.0225 | 1.5700e-003 | | 0.0920 | 0.0920 | | 0.0881 | 0.0881 | 0.0000 | 133.2841 | 133.2841 | 0.0296 | 0.0000 | 133.9062 |

3.5 Building Construction - 2017

Mitigated Construction Off-Site

Acres of Paving: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0194 | 0.0880 | 0.1304 | 2.4000e-004 | 6.5600e-003 | 1.2600e-003 | 7.8200e-003 | 1.8800e-003 | 1.1600e-003 | 3.0300e-003 | 0.0000 | 21.3797 | 21.3797 | 1.6000e-004 | 0.0000 | 21.3831 |
| Worker | 0.0316 | 9.6000e-003 | 0.0908 | 2.3000e-004 | 0.0187 | 1.4000e-004 | 0.0188 | 4.9700e-003 | 1.3000e-004 | 5.1000e-003 | 0.0000 | 16.7468 | 16.7468 | 8.5000e-004 | 0.0000 | 16.7646 |
| Total | 0.0509 | 0.0976 | 0.2211 | 4.7000e-004 | 0.0253 | 1.4000e-003 | 0.0267 | 6.8500e-003 | 1.2900e-003 | 8.1300e-003 | 0.0000 | 38.1264 | 38.1264 | 1.0100e-003 | 0.0000 | 38.1477 |

3.6 Paving - 2017

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 8.2000e-003 | 0.0823 | 0.0603 | 9.0000e-005 | | 5.1100e-003 | 5.1100e-003 | | 4.7100e-003 | 4.7100e-003 | 0.0000 | 8.0625 | 8.0625 | 2.4200e-003 | 0.0000 | 8.1134 |
| Paving | 5.9000e-004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 8.7900e-003 | 0.0823 | 0.0603 | 9.0000e-005 | | 5.1100e-003 | 5.1100e-003 | | 4.7100e-003 | 4.7100e-003 | 0.0000 | 8.0625 | 8.0625 | 2.4200e-003 | 0.0000 | 8.1134 |

3.6 Paving - 2017

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0200e-003 | 3.1000e-004 | 2.9200e-003 | 1.0000e-005 | 6.0000e-004 | 0.0000 | 6.1000e-004 | 1.6000e-004 | 0.0000 | 1.6000e-004 | 0.0000 | 0.5388 | 0.5388 | 3.0000e-005 | 0.0000 | 0.5394 |
| Total | 1.0200e-003 | 3.1000e-004 | 2.9200e-003 | 1.0000e-005 | 6.0000e-004 | 0.0000 | 6.1000e-004 | 1.6000e-004 | 0.0000 | 1.6000e-004 | 0.0000 | 0.5388 | 0.5388 | 3.0000e-005 | 0.0000 | 0.5394 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 8.1900e-003 | 0.0822 | 0.0602 | 9.0000e-005 | | 5.1100e-003 | 5.1100e-003 | | 4.7100e-003 | 4.7100e-003 | 0.0000 | 8.0529 | 8.0529 | 2.4200e-003 | 0.0000 | 8.1037 |
| Paving | 5.9000e-004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 8.7800e-003 | 0.0822 | 0.0602 | 9.0000e-005 | | 5.1100e-003 | 5.1100e-003 | | 4.7100e-003 | 4.7100e-003 | 0.0000 | 8.0529 | 8.0529 | 2.4200e-003 | 0.0000 | 8.1037 |

3.6 Paving - 2017

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0200e-003 | 3.1000e-004 | 2.9200e-003 | 1.0000e-005 | 6.0000e-004 | 0.0000 | 6.1000e-004 | 1.6000e-004 | 0.0000 | 1.6000e-004 | 0.0000 | 0.5388 | 0.5388 | 3.0000e-005 | 0.0000 | 0.5394 |
| Total | 1.0200e-003 | 3.1000e-004 | 2.9200e-003 | 1.0000e-005 | 6.0000e-004 | 0.0000 | 6.1000e-004 | 1.6000e-004 | 0.0000 | 1.6000e-004 | 0.0000 | 0.5388 | 0.5388 | 3.0000e-005 | 0.0000 | 0.5394 |

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 115,575; Non-Residential Outdoor: 38,525

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.5803 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.4900e-003 | 0.0229 | 0.0196 | 3.0000e-005 | | 1.8200e-003 | 1.8200e-003 | | 1.8200e-003 | 1.8200e-003 | 0.0000 | 2.6809 | 2.6809 | 2.8000e-004 | 0.0000 | 2.6869 |
| Total | 0.5838 | 0.0229 | 0.0196 | 3.0000e-005 | | 1.8200e-003 | 1.8200e-003 | | 1.8200e-003 | 1.8200e-003 | 0.0000 | 2.6809 | 2.6809 | 2.8000e-004 | 0.0000 | 2.6869 |

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 115,575; Non-Residential Outdoor: 38,525

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.9000e-004 | 3.0000e-004 | 2.8600e-003 | 1.0000e-005 | 5.9000e-004 | 0.0000 | 5.9000e-004 | 1.6000e-004 | 0.0000 | 1.6000e-004 | 0.0000 | 0.5281 | 0.5281 | 3.0000e-005 | 0.0000 | 0.5286 |
| Total | 9.9000e-004 | 3.0000e-004 | 2.8600e-003 | 1.0000e-005 | 5.9000e-004 | 0.0000 | 5.9000e-004 | 1.6000e-004 | 0.0000 | 1.6000e-004 | 0.0000 | 0.5281 | 0.5281 | 3.0000e-005 | 0.0000 | 0.5286 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.5803 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.4900e-003 | 0.0229 | 0.0196 | 3.0000e-005 | | 1.8200e-003 | 1.8200e-003 | | 1.8200e-003 | 1.8200e-003 | 0.0000 | 2.6777 | 2.6777 | 2.8000e-004 | 0.0000 | 2.6837 |
| Total | 0.5838 | 0.0229 | 0.0196 | 3.0000e-005 | | 1.8200e-003 | 1.8200e-003 | | 1.8200e-003 | 1.8200e-003 | 0.0000 | 2.6777 | 2.6777 | 2.8000e-004 | 0.0000 | 2.6837 |

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 115,575; Non-Residential Outdoor: 38,525

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.9000e-004 | 3.0000e-004 | 2.8600e-003 | 1.0000e-005 | 5.9000e-004 | 0.0000 | 5.9000e-004 | 1.6000e-004 | 0.0000 | 1.6000e-004 | 0.0000 | 0.5281 | 0.5281 | 3.0000e-005 | 0.0000 | 0.5286 |
| Total | 9.9000e-004 | 3.0000e-004 | 2.8600e-003 | 1.0000e-005 | 5.9000e-004 | 0.0000 | 5.9000e-004 | 1.6000e-004 | 0.0000 | 1.6000e-004 | 0.0000 | 0.5281 | 0.5281 | 3.0000e-005 | 0.0000 | 0.5286 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.6100 | 0.5247 | 2.7006 | 4.5600e-003 | 0.3020 | 6.0900e-003 | 0.3081 | 0.0808 | 5.6100e-003 | 0.0864 | 0.0000 | 348.7546 | 348.7546 | 0.0159 | 0.0000 | 349.0887 |
| Unmitigated | 0.6100 | 0.5247 | 2.7006 | 4.5600e-003 | 0.3020 | 6.0900e-003 | 0.3081 | 0.0808 | 5.6100e-003 | 0.0864 | 0.0000 | 348.7546 | 348.7546 | 0.0159 | 0.0000 | 349.0887 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|----------------------------|-------------------------|-------------|-------------|----------------|----------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Government (Civic Center) | 906.00 | 0.00 | 0.00 | 803,028 | 803,028 |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 906.00 | 0.00 | 0.00 | 803,028 | 803,028 |

4.3 Trip Type Information

| Land Use | Miles | | | Trip % | | | Trip Purpose % | | |
|----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Enclosed Parking Structure | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Government (Civic Center) | 5.80 | 5.80 | 5.80 | 75.00 | 20.00 | 5.00 | 50 | 34 | 16 |
| Parking Lot | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

4.4 Fleet Mix

| LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0.510423 | 0.073380 | 0.192408 | 0.132453 | 0.036550 | 0.005219 | 0.012745 | 0.022253 | 0.001862 | 0.002079 | 0.006550 | 0.000609 | 0.003468 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 219.8524 | 219.8524 | 0.0104 | 2.1600e-003 | 220.7396 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 219.8524 | 219.8524 | 0.0104 | 2.1600e-003 | 220.7396 |
| NaturalGas Mitigated | 3.6800e-003 | 0.0335 | 0.0281 | 2.0000e-004 | | 2.5400e-003 | 2.5400e-003 | | 2.5400e-003 | 2.5400e-003 | 0.0000 | 36.4167 | 36.4167 | 7.0000e-004 | 6.7000e-004 | 36.6383 |
| NaturalGas Unmitigated | 3.6800e-003 | 0.0335 | 0.0281 | 2.0000e-004 | | 2.5400e-003 | 2.5400e-003 | | 2.5400e-003 | 2.5400e-003 | 0.0000 | 36.4167 | 36.4167 | 7.0000e-004 | 6.7000e-004 | 36.6383 |

5.2 Energy by Land Use - NaturalGas

Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Government (Civic Center) | 682423 | 3.6800e-003 | 0.0335 | 0.0281 | 2.0000e-004 | | 2.5400e-003 | 2.5400e-003 | | 2.5400e-003 | 2.5400e-003 | 0.0000 | 36.4167 | 36.4167 | 7.0000e-004 | 6.7000e-004 | 36.6383 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 3.6800e-003 | 0.0335 | 0.0281 | 2.0000e-004 | | 2.5400e-003 | 2.5400e-003 | | 2.5400e-003 | 2.5400e-003 | 0.0000 | 36.4167 | 36.4167 | 7.0000e-004 | 6.7000e-004 | 36.6383 |

5.2 Energy by Land Use - NaturalGas

Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|----------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Government (Civic Center) | 682423 | 3.6800e-003 | 0.0335 | 0.0281 | 2.0000e-004 | | 2.5400e-003 | 2.5400e-003 | | 2.5400e-003 | 2.5400e-003 | 0.0000 | 36.4167 | 36.4167 | 7.0000e-004 | 6.7000e-004 | 36.6383 |
| Total | | 3.6800e-003 | 0.0335 | 0.0281 | 2.0000e-004 | | 2.5400e-003 | 2.5400e-003 | | 2.5400e-003 | 2.5400e-003 | 0.0000 | 36.4167 | 36.4167 | 7.0000e-004 | 6.7000e-004 | 36.6383 |

5.3 Energy by Land Use - Electricity

Unmitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Land Use | kWh/yr | MT/yr | | | |
| Enclosed Parking Structure | 288200 | 79.9791 | 3.7900e-003 | 7.8000e-004 | 80.3018 |
| Government (Civic Center) | 486426 | 134.9891 | 6.4000e-003 | 1.3200e-003 | 135.5338 |
| Parking Lot | 17600 | 4.8842 | 2.3000e-004 | 5.0000e-005 | 4.9039 |
| Total | | 219.8524 | 0.0104 | 2.1500e-003 | 220.7396 |

5.3 Energy by Land Use - Electricity

Mitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Land Use | kWh/yr | MT/yr | | | |
| Enclosed Parking Structure | 288200 | 79.9791 | 3.7900e-003 | 7.8000e-004 | 80.3018 |
| Government (Civic Center) | 486426 | 134.9891 | 6.4000e-003 | 1.3200e-003 | 135.5338 |
| Parking Lot | 17600 | 4.8842 | 2.3000e-004 | 5.0000e-005 | 4.9039 |
| Total | | 219.8524 | 0.0104 | 2.1500e-003 | 220.7396 |

6.0 Area Detail

6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|--------|-------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.4661 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.4400e-003 | 3.4400e-003 | 1.0000e-005 | 0.0000 | 3.6400e-003 |
| Unmitigated | 0.4661 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.4400e-003 | 3.4400e-003 | 1.0000e-005 | 0.0000 | 3.6400e-003 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0893 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.3767 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.7000e-004 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.4400e-003 | 3.4400e-003 | 1.0000e-005 | 0.0000 | 3.6400e-003 |
| Total | 0.4661 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.4400e-003 | 3.4400e-003 | 1.0000e-005 | 0.0000 | 3.6400e-003 |

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0893 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.3767 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.7000e-004 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.4400e-003 | 3.4400e-003 | 1.0000e-005 | 0.0000 | 3.6400e-003 |
| Total | 0.4661 | 2.0000e-005 | 1.8000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.4400e-003 | 3.4400e-003 | 1.0000e-005 | 0.0000 | 3.6400e-003 |

7.0 Water Detail

7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|-------------|---------|
| Category | MT/yr | | | |
| Mitigated | 37.5214 | 0.2117 | 5.3000e-003 | 43.6101 |
| Unmitigated | 37.5214 | 0.2117 | 5.3100e-003 | 43.6134 |

7.2 Water by Land Use

Unmitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|--------------------|----------------|---------------|--------------------|----------------|
| Land Use | Mgal | MT/yr | | | |
| Enclosed Parking Structure | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Government (Civic Center) | 6.44651 / 3.95108 | 37.5214 | 0.2117 | 5.3100e-003 | 43.6134 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 37.5214 | 0.2117 | 5.3100e-003 | 43.6134 |

7.2 Water by Land Use

Mitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|--------------------|----------------|---------------|--------------------|----------------|
| Land Use | Mgal | MT/yr | | | |
| Enclosed Parking Structure | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Government (Civic Center) | 6.44651 / 3.95108 | 37.5214 | 0.2117 | 5.3000e-003 | 43.6101 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 37.5214 | 0.2117 | 5.3000e-003 | 43.6101 |

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|---------|
| | MT/yr | | | |
| Mitigated | 28.1604 | 1.6642 | 0.0000 | 63.1093 |
| Unmitigated | 37.5472 | 2.2190 | 0.0000 | 84.1458 |

8.2 Waste by Land Use

Unmitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use | tons | MT/yr | | | |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Government (Civic Center) | 184.97 | 37.5472 | 2.2190 | 0.0000 | 84.1458 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 37.5472 | 2.2190 | 0.0000 | 84.1458 |

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|----------------|----------------|---------------|---------------|----------------|
| Land Use | tons | MT/yr | | | |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Government (Civic Center) | 138.727 | 28.1604 | 1.6642 | 0.0000 | 63.1093 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 28.1604 | 1.6642 | 0.0000 | 63.1093 |

9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

10.0 Vegetation

Del Mar City Hall Relocation Site
San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---------------------------|------|----------|-------------|--------------------|------------|
| Government (Civic Center) | 0.01 | 1000sqft | 0.00 | 10.00 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|--------------------------------|--------------------------|--------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.6 | Precipitation Freq (Days) | 40 |
| Climate Zone | 13 | | | Operational Year | 2016 |
| Utility Company | San Diego Gas & Electric | | | | |
| CO2 Intensity (lb/MWhr) | 720.49 | CH4 Intensity (lb/MWhr) | 0.029 | N2O Intensity (lb/MWhr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Temporary Structures No Building Construction only access improvements and placement of portables.

Construction Phase - Temporary Structures No Building Construction only access improvements and placement of portables.

Off-road Equipment - Temporary Structures No Building Construction only access improvements and placement of portables.

Off-road Equipment - Temporary Structures No Building Construction only access improvements and placement of portables.

Off-road Equipment - Temporary Structures No Building Construction only access improvements and placement of portables.

Off-road Equipment - Temporary Structures No Building Construction only access improvements and placement of portables.

Off-road Equipment - Temporary Structures No Building Construction only access improvements and placement of portables.

Demolition -

Vehicle Trips - Relocation of existing use.

Consumer Products - Relocation of existing use.

Area Coating - Relocation of existing use.

Landscape Equipment - Relocation of existing use.

Energy Use - Relocation of existing use.

Water And Wastewater - Relocation of existing use.

Solid Waste - Relocation of existing use.

Construction Off-road Equipment Mitigation - Standard dust control and CARB's In-use Off-Road Regulations

| Table Name | Column Name | Default Value | New Value |
|-------------------------|----------------------------|---------------|-----------|
| tblAreaCoating | ReapplicationRatePercent | 10 | 0 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |

| | | | |
|---------------------------|----------------------------|------------|----------|
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstructionPhase | NumDays | 10.00 | 1.00 |
| tblConstructionPhase | NumDays | 2.00 | 1.00 |
| tblConstructionPhase | NumDays | 5.00 | 1.00 |
| tblConstructionPhase | PhaseEndDate | 1/5/2016 | 1/4/2016 |
| tblConstructionPhase | PhaseStartDate | 1/5/2016 | 1/4/2016 |
| tblEnergyUse | LightingElect | 4.33 | 0.00 |
| tblEnergyUse | NT24E | 4.97 | 0.00 |
| tblEnergyUse | NT24NG | 4.20 | 0.00 |
| tblEnergyUse | T24E | 5.69 | 0.00 |
| tblEnergyUse | T24NG | 16.83 | 0.00 |
| tblGrading | AcresOfGrading | 0.00 | 0.50 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2016 |
| tblSolidWaste | SolidWasteGenerationRate | 28.50 | 0.00 |
| tblVehicleTrips | WD_TR | 27.92 | 0.00 |
| tblWater | OutdoorWaterUseRate | 608,795.81 | 0.00 |

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2016 | 1.2100e-003 | 9.3500e-003 | 7.3700e-003 | 1.0000e-005 | 3.5000e-004 | 7.0000e-004 | 1.0500e-003 | 5.0000e-005 | 6.6000e-004 | 7.1000e-004 | 0.0000 | 0.9607 | 0.9607 | 2.1000e-004 | 0.0000 | 0.9652 |
| Total | 1.2100e-003 | 9.3500e-003 | 7.3700e-003 | 1.0000e-005 | 3.5000e-004 | 7.0000e-004 | 1.0500e-003 | 5.0000e-005 | 6.6000e-004 | 7.1000e-004 | 0.0000 | 0.9607 | 0.9607 | 2.1000e-004 | 0.0000 | 0.9652 |

Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2016 | 5.6000e-004 | 8.7000e-003 | 7.1500e-003 | 1.0000e-005 | 2.0000e-004 | 3.5000e-004 | 5.5000e-004 | 3.0000e-005 | 3.5000e-004 | 3.8000e-004 | 0.0000 | 0.9596 | 0.9596 | 2.1000e-004 | 0.0000 | 0.9641 |
| Total | 5.6000e-004 | 8.7000e-003 | 7.1500e-003 | 1.0000e-005 | 2.0000e-004 | 3.5000e-004 | 5.5000e-004 | 3.0000e-005 | 3.5000e-004 | 3.8000e-004 | 0.0000 | 0.9596 | 0.9596 | 2.1000e-004 | 0.0000 | 0.9641 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|----------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Percent Reduction | 53.7190 | 6.9519 | 2.9851 | 0.0000 | 42.8571 | 50.0000 | 47.6190 | 40.0000 | 46.9697 | 46.4789 | 0.0000 | 0.1103 | 0.1103 | 0.0000 | 0.0000 | 0.1098 |

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.3151 | 4.2269 | 4.5420 | 0.0325 | 8.0000e-004 | 5.4731 |
| Total | 4.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3151 | 4.2269 | 4.5420 | 0.0325 | 8.0000e-004 | 5.4731 |

2.2 Overall Operational

Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 4.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.3151 | 4.2269 | 4.5420 | 0.0325 | 8.0000e-004 | 5.4726 |
| Total | 4.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3151 | 4.2269 | 4.5420 | 0.0325 | 8.0000e-004 | 5.4726 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|--------|--------|-------------|
| Percent Reduction | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0307 | 0.0000 | 9.3183e-003 |

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|------------------|------------------|------------|----------|---------------|----------|-------------------|
| 1 | Demolition | Demolition | 1/4/2016 | 1/4/2016 | 5 | 1 | |
| 2 | Site Preparation | Site Preparation | 1/4/2016 | 1/4/2016 | 5 | 1 | |
| 3 | Grading | Grading | 1/5/2016 | 1/5/2016 | 5 | 1 | |
| 4 | Paving | Paving | 1/6/2016 | 1/6/2016 | 5 | 1 | |

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|------------------|---------------------------|--------|-------------|-------------|-------------|
| Paving | Cement and Mortar Mixers | 1 | 6.00 | 9 | 0.56 |
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Grading | Concrete/Industrial Saws | 0 | 8.00 | 81 | 0.73 |
| Site Preparation | Graders | 0 | 8.00 | 174 | 0.41 |
| Paving | Pavers | 0 | 7.00 | 125 | 0.42 |
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |
| Demolition | Rubber Tired Dozers | 0 | 1.00 | 255 | 0.40 |
| Grading | Rubber Tired Dozers | 0 | 1.00 | 255 | 0.40 |
| Demolition | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Grading | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Paving | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 2 | 5.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 1 | 3.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 1 | 3.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 3 | 8.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2016

Unmitigated Construction On-Site

Acres of Grading: 0.5

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.5000e-004 | 3.5300e-003 | 2.7900e-003 | 0.0000 | | 2.7000e-004 | 2.7000e-004 | | 2.6000e-004 | 2.6000e-004 | 0.0000 | 0.3789 | 0.3789 | 6.0000e-005 | 0.0000 | 0.3802 |
| Total | 4.5000e-004 | 3.5300e-003 | 2.7900e-003 | 0.0000 | 1.0000e-005 | 2.7000e-004 | 2.8000e-004 | 0.0000 | 2.6000e-004 | 2.6000e-004 | 0.0000 | 0.3789 | 0.3789 | 6.0000e-005 | 0.0000 | 0.3802 |

3.2 Demolition - 2016

Unmitigated Construction Off-Site

Acres of Grading: 0.5

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.0000e-005 | 1.0000e-005 | 1.1000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0187 | 0.0187 | 0.0000 | 0.0000 | 0.0187 |
| Total | 4.0000e-005 | 1.0000e-005 | 1.1000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0187 | 0.0187 | 0.0000 | 0.0000 | 0.0187 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.7000e-004 | 3.6000e-003 | 2.8000e-003 | 0.0000 | | 1.5000e-004 | 1.5000e-004 | | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.3785 | 0.3785 | 6.0000e-005 | 0.0000 | 0.3797 |
| Total | 1.7000e-004 | 3.6000e-003 | 2.8000e-003 | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.3785 | 0.3785 | 6.0000e-005 | 0.0000 | 0.3797 |

3.2 Demolition - 2016

Mitigated Construction Off-Site

Acres of Grading: 0.5

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.0000e-005 | 1.0000e-005 | 1.1000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0187 | 0.0187 | 0.0000 | 0.0000 | 0.0187 |
| Total | 4.0000e-005 | 1.0000e-005 | 1.1000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0187 | 0.0187 | 0.0000 | 0.0000 | 0.0187 |

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 2.7000e-004 | 0.0000 | 2.7000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.7000e-004 | 1.6300e-003 | 1.2100e-003 | 0.0000 | | 1.3000e-004 | 1.3000e-004 | | 1.2000e-004 | 1.2000e-004 | 0.0000 | 0.1468 | 0.1468 | 4.0000e-005 | 0.0000 | 0.1478 |
| Total | 1.7000e-004 | 1.6300e-003 | 1.2100e-003 | 0.0000 | 2.7000e-004 | 1.3000e-004 | 4.0000e-004 | 3.0000e-005 | 1.2000e-004 | 1.5000e-004 | 0.0000 | 0.1468 | 0.1468 | 4.0000e-005 | 0.0000 | 0.1478 |

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

Acres of Grading: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.0000e-005 | 1.0000e-005 | 6.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0112 | 0.0112 | 0.0000 | 0.0000 | 0.0112 |
| Total | 2.0000e-005 | 1.0000e-005 | 6.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0112 | 0.0112 | 0.0000 | 0.0000 | 0.0112 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.2000e-004 | 0.0000 | 1.2000e-004 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.0000e-005 | 1.5000e-003 | 1.1700e-003 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 0.1466 | 0.1466 | 4.0000e-005 | 0.0000 | 0.1476 |
| Total | 7.0000e-005 | 1.5000e-003 | 1.1700e-003 | 0.0000 | 1.2000e-004 | 6.0000e-005 | 1.8000e-004 | 1.0000e-005 | 6.0000e-005 | 7.0000e-005 | 0.0000 | 0.1466 | 0.1466 | 4.0000e-005 | 0.0000 | 0.1476 |

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

Acres of Grading: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.0000e-005 | 1.0000e-005 | 6.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0112 | 0.0112 | 0.0000 | 0.0000 | 0.0112 |
| Total | 2.0000e-005 | 1.0000e-005 | 6.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0112 | 0.0112 | 0.0000 | 0.0000 | 0.0112 |

3.4 Grading - 2016

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.3000e-004 | 1.2200e-003 | 9.0000e-004 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | 0.0000 | 0.1101 | 0.1101 | 3.0000e-005 | 0.0000 | 0.1108 |
| Total | 1.3000e-004 | 1.2200e-003 | 9.0000e-004 | 0.0000 | 0.0000 | 9.0000e-005 | 9.0000e-005 | 0.0000 | 9.0000e-005 | 9.0000e-005 | 0.0000 | 0.1101 | 0.1101 | 3.0000e-005 | 0.0000 | 0.1108 |

3.4 Grading - 2016

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.0000e-005 | 1.0000e-005 | 6.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0112 | 0.0112 | 0.0000 | 0.0000 | 0.0112 |
| Total | 2.0000e-005 | 1.0000e-005 | 6.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0112 | 0.0112 | 0.0000 | 0.0000 | 0.0112 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 5.0000e-005 | 1.1300e-003 | 8.8000e-004 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.1100 | 0.1100 | 3.0000e-005 | 0.0000 | 0.1107 |
| Total | 5.0000e-005 | 1.1300e-003 | 8.8000e-004 | 0.0000 | 0.0000 | 5.0000e-005 | 5.0000e-005 | 0.0000 | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.1100 | 0.1100 | 3.0000e-005 | 0.0000 | 0.1107 |

3.4 Grading - 2016

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.0000e-005 | 1.0000e-005 | 6.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0112 | 0.0112 | 0.0000 | 0.0000 | 0.0112 |
| Total | 2.0000e-005 | 1.0000e-005 | 6.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0112 | 0.0112 | 0.0000 | 0.0000 | 0.0112 |

3.5 Paving - 2016

Unmitigated Construction On-Site

Acres of Paving: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 3.2000e-004 | 2.9200e-003 | 2.0500e-003 | 0.0000 | | 2.2000e-004 | 2.2000e-004 | | 2.0000e-004 | 2.0000e-004 | 0.0000 | 0.2538 | 0.2538 | 7.0000e-005 | 0.0000 | 0.2553 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 3.2000e-004 | 2.9200e-003 | 2.0500e-003 | 0.0000 | | 2.2000e-004 | 2.2000e-004 | | 2.0000e-004 | 2.0000e-004 | 0.0000 | 0.2538 | 0.2538 | 7.0000e-005 | 0.0000 | 0.2553 |

3.5 Paving - 2016

Unmitigated Construction Off-Site

Acres of Paving: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 6.0000e-005 | 2.0000e-005 | 1.7000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0299 | 0.0299 | 0.0000 | 0.0000 | 0.0299 |
| Total | 6.0000e-005 | 2.0000e-005 | 1.7000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0299 | 0.0299 | 0.0000 | 0.0000 | 0.0299 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 1.2000e-004 | 2.4300e-003 | 1.8900e-003 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.2535 | 0.2535 | 7.0000e-005 | 0.0000 | 0.2550 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 1.2000e-004 | 2.4300e-003 | 1.8900e-003 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.2535 | 0.2535 | 7.0000e-005 | 0.0000 | 0.2550 |

3.5 Paving - 2016

Mitigated Construction Off-Site

Acres of Paving: 0

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 6.0000e-005 | 2.0000e-005 | 1.7000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0299 | 0.0299 | 0.0000 | 0.0000 | 0.0299 |
| Total | 6.0000e-005 | 2.0000e-005 | 1.7000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0299 | 0.0299 | 0.0000 | 0.0000 | 0.0299 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---------------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Government (Civic Center) | 0.00 | 0.00 | 0.00 | | |
| Total | 0.00 | 0.00 | 0.00 | | |

4.3 Trip Type Information

| Land Use | Miles | | | Trip % | | | Trip Purpose % | | |
|---------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Government (Civic Center) | 9.50 | 7.30 | 7.30 | 75.00 | 20.00 | 5.00 | 50 | 34 | 16 |

4.4 Fleet Mix

| LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0.510118 | 0.073510 | 0.192396 | 0.133166 | 0.036737 | 0.005265 | 0.012605 | 0.021642 | 0.001847 | 0.002083 | 0.006548 | 0.000610 | 0.003471 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

5.2 Energy by Land Use - NaturalGas

Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Government (Civic Center) | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

5.3 Energy by Land Use - Electricity

Unmitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use | kWh/yr | MT/yr | | | |
| Government (Civic Center) | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|--------------------|-----|----|-----|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 4.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 4.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|--------------------|-----|----|-----|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 4.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 4.0000e-005 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

7.0 Water Detail

7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|-------------|--------|
| Category | MT/yr | | | |
| Mitigated | 4.5420 | 0.0325 | 8.0000e-004 | 5.4726 |
| Unmitigated | 4.5420 | 0.0325 | 8.0000e-004 | 5.4731 |

7.2 Water by Land Use

Unmitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|--------------------|---------------|---------------|--------------------|---------------|
| Land Use | Mgal | MT/yr | | | |
| Government (Civic Center) | 0.993298 / 0 | 4.5420 | 0.0325 | 8.0000e-004 | 5.4731 |
| Total | | 4.5420 | 0.0325 | 8.0000e-004 | 5.4731 |

7.2 Water by Land Use

Mitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|--------------------|---------------|---------------|--------------------|---------------|
| Land Use | Mgal | MT/yr | | | |
| Government (Civic Center) | 0.993298 / 0 | 4.5420 | 0.0325 | 8.0000e-004 | 5.4726 |
| Total | | 4.5420 | 0.0325 | 8.0000e-004 | 5.4726 |

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|--------|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

8.2 Waste by Land Use

Unmitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use | tons | MT/yr | | | |
| Government (Civic Center) | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use | tons | MT/yr | | | |
| Government (Civic Center) | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

10.0 Vegetation

| | Existing | Project CalEEMod Output | 2020* |
|--------------------|------------|-------------------------|------------|
| Area | 0 | 0 | 0 |
| Energy | 83 | 257 | 203 |
| <i>Electricity</i> | 68 | 221 | 173 |
| <i>Natural Gas</i> | 15 | 37 | 30 |
| Vehicles | 139 | 215 | 208 |
| Water | 31 | 84 | 67 |
| Waste | 18 | 44 | 44 |
| Operation Total | 271 | 600 | 523 |
| Construction | 0 | 21 | 21 |
| TOTAL | 271 | 621 | 544 |

Net increase

272

*Project Includes:

Energy reduction per 2013 Title 24 - 23.3% for electricity, and 3.8% from natural gas, over 2008 Title 24 (pos Pavley I and LCFS)

LEV III - 2.4% (post-process)

Tire Pressure Program - 0.6% (post-process)

RPS additional percentage reduction - 22.8% (post-process)

Energy Star - Dishwasher, Refrigerator, and Fans

Reduce indoor water use by 20% per CalGreen